

EXHIBIT B13

Part 1



— Cell Lines

SKOV-3

A2780

TOVII2D

ATCC

Sigma Aldrich, St. Louis, MO)

A kind gift from Gensheng Wu at Wayne State Uni

EL-1/macrophages

ATCC,

Normal ovarian epithelial

Cell Biologies, Chicago, IL

FT33

Applied Biological Materials, Richmond, BC, CAN

— Fetal bovine serum (FBS, Innovative Research, Novi, MI)
Penicillin/streptomycin (Fisher Scientific)

— Johnson Baby Powder (#30027578 Lot #13717RA)



PCR

Seeded Cells for PCR

1/24/18

- Thawing Cells

EL-1 (Macrophages)

SKOV-3

TOU#12D

A2780

FT33

Normal Ovarian Epithelial

Media

IMDM 10% FBS, 1% PS, 1mL H-T 1

McCoy's 5A (10% FBS, 1% PS)

Medium 199: MCD B 105 (1:1) + 10% FBS + 1% PS

RPMI-1640 10% FBS + 1% PS)

DMEM 10% FBS, 1% PS)

Complete Human Epithelial Cell Medium kit
(Cell Biologics)75cm² flask + 15ml medium

1/26/18

- Subculture Cells

* Normal Ovarian Epithelial use trypsin from Sciencell

① Wash with PBS 10ml

② gently remove PBS

③ Pipet trypsin-EDTA 2ml onto the washed cells monolayer

④ 37°C incubator 1 ~ 5 minutes (SKOV-3 longer)

⑤ Check under microscope

⑥ Add fresh medium 8ml to inactivate trypsin, Then Mix

⑦ Take 2ml to a new 100mm dish

⑧ Add 8ml fresh medium to 100mm dish

⑨ Incubate the cells

1/29/18

- Subculture Cells

2ml cells + 8ml medium 100 mm dish

Cells doubled in one day.

2/1/2018

- Subculture cells
- Seeded 1×10^6 cells 60mm dish + 5ml medium
- Need dose for treatment with talc
Unt, 5, 20, 100 $\mu\text{g/ml}$

Sample ID	
356	EL1 Unt
357	EL1 5 $\mu\text{g/ml}$ Talc
358	EL1 20 $\mu\text{g/ml}$ Talc
359	EL1 100 $\mu\text{g/ml}$ Talc
360	SKOV-3 unt
361	SKOV-3 5 $\mu\text{g/ml}$
362	SKOV-3 20 $\mu\text{g/ml}$
363	SKOV-3 100 $\mu\text{g/ml}$
364	TOV112 Unt
365	TOV112 5 $\mu\text{g/ml}$ Talc
366	TOV112 20 $\mu\text{g/ml}$ Talc
367	TOV112 100 $\mu\text{g/ml}$ Talc
368	A2780 Unt
369	A2780 5 $\mu\text{g/ml}$
370	A2780 20 $\mu\text{g/ml}$
371	A2780 100 $\mu\text{g/ml}$
379	FT33 unt
380	FT33 5 $\mu\text{g/ml}$
381	FT33 20 $\mu\text{g/ml}$
382	FT33 100 $\mu\text{g/ml}$
383	NOE unt
384	NOE 5 $\mu\text{g/ml}$ Talc
385	NOE 20 $\mu\text{g/ml}$ Talc
386	NOE 100 $\mu\text{g/ml}$ Talc

2/2/2018

- treat cell with talc

prepare talc / Johnson Baby Powder (#30027578, lot 13717RA)

100mg talc + 10ml DMSO → mix $10\text{mg/ml} = 10^4\text{ug/ml}$

- Sterilization under UV light to avoid endotoxin and microbial contamination
- Powder 100mg suspended in DMSO and passed 5 times through 22-gauge needle and 0.2μl syringe filter

$$(X_1) (10^4\text{ug/ml}) = (5\text{ml}) (5\text{ug/ml}) \rightarrow X_1 = 2.5\text{ul}$$

$$(X_2) (10^4\text{ug/ml}) = (5\text{ml}) (20\text{ug/ml}) \rightarrow X_2 = 10\text{ul}$$

$$(X_3) (10^4\text{ug/ml}) = (5\text{ml}) (100\text{ug/ml}) \rightarrow X_3 = 50\text{ul}$$

2/5/2018

- collect cells (see below)

- RNA Extraction RNeasy Mini Kit (Qiagen cat #74106/go to Pg 3)

- Detect concentration of RNA by Nanodrop (go to Pg 35) (Thermo Fisher Scientific) (Life Technologies)

- cDNA Synthesis via Reverse Transcription - VILO Kit (go to Pg 35)

Put on gloves and spray with 70% ethanol

Remove cell culture dish from incubator

Observe cells under microscope.

Move the dishes to your work bench, does not need to be done in the hood.

Collect media and place in labeled 15ml tube for freezing,

Add 10 ml PBS

Using a cell scraper, scrape the bottom of the dish and rotate it to ensure scraping of entire bottom

Using a 10ml pipet, remove the PBS and cell mixture and place into the 15ml conical centrifugation tube that corresponds to the dish, 1ml for RNA, 2ml for DNA, 8 ml for protein assay.

Close and centrifuge all tubes, 5 minutes at 1800rpm (slower speed keeps cells from breaking).

Place another paper towel by sink, dump PBS from all tubes into sink and place tubes upside down to drain them. Cells will be collected at the bottom. Place all tubes in Styrofoam holder and place in -80°C freezer.

RNA Extraction

RNeasy Mini Kit (Qiagen cat # 74106)

Important Notes before starting: **WORK IN THE HOOD**

- β -Mercaptoethanol (β -ME) can be added to Buffer RLT (lysis buffer) before use. β -ME is toxic; dispense in a fume hood and wear appropriate protective clothing. Add 10 μ l β -ME per 1 ml Buffer RLT. Buffer RLT is stable for **one month** after addition of β -ME.
- Buffer RPE is supplied as a concentrate. Before using for the first time, add ethanol as indicated on the bottle. Be sure to mark the lid with a X to show that the working solution has been prepared.

Buffer RW1 and Buffer RLT are hazardous.

- Buffer RLT + β -ME should be disposed of in the jar in the hood.
- Buffer RW1 should be disposed of in the jar in the hood.

Preparation of the Buffer RLT

- In a labeled 15ml centrifugation tube, add 10 μ l β -ME for every 1 ml Buffer RLT.

Preparation of your samples

1. Add 350 μ l of the Buffer RLT + β -ME solution to each of your sample tubes.
 - a. if you have a lot of cells, you will need to add 600 μ l of Buffer RLT + β -ME solution to each tube
***also add equal volume of ethanol)
2. Add 350 μ l of 70% ethanol to each tube and pipet to mix
3. Transfer the entire sample to its corresponding mini spin column
 - a. Close columns and place them into the small centrifuge.
 - b. Centrifuge the tubes for 15 seconds at 13,000 rpm
4. Dump the flow through into hazardous waste jar in the hood.
5. Add 700 μ l of the Buffer RW1 to the RNeasy column
 - a. Centrifuge 15 seconds at 13,000 rpm
6. Dump the flow through into hazardous waste jar in the hood
7. Add 500 μ l of Buffer RPE onto each RNeasy column
 - a. Centrifuge 15 seconds at 13,000 rpm
8. Dump the flow through into waste jar
9. Add 500 μ l Buffer RPE to each column again
 - a. Centrifuge 2 minutes at 13,000 rpm to dry the silica gel membrane
10. Dump the flow through in waste jar, centrifuge for one minute more
11. Remove columns from collection tubes and place in corresponding 1.5ml centrifuge tube
12. Add 50 μ l of RNase-free water to each column, onto the center of the silica-gel membrane without touching the sides of the column (water dissolves RNA).
 - a. Allow to stand for 1 minute
 - b. Centrifuge columns for 1 minute at 13,000 rpm, **LID MUST BE ON CENTRIFUGE**
13. Collect flow through from the collection tube and place back into the column on the center of the membrane, allow to stand for 1 minute
 - a. Centrifuge columns again for 1 minute at 13,000 rpm, **LID MUST BE ON CENTRIFUGE**
14. Remove and dispose of columns
15. Place your microcentrifuge tubes containing RNA on ice
 - a. Detect concentration of RNA
 - b. Good quality RNA has a A260/A280 of 2.0

NEED TO MEASURE RNA EACH TIME YOU GO TO MAKE cDNA

cDNA Synthesis via Reverse Transcription - VILO kit

cDNA
20 µl

You will need:

Ice

Thaw, on ice:

RNA

VILO MasterMix

RNase-free water

You must detect the concentration of your RNA. After doing this, you can calculate the volume needed to get for a 1 µg reaction.

i.e. - If your RNA concentration is 0.9 ug/ul then:

$$(x \text{ ul})(0.9 \text{ ug/ul}) = 1 \text{ ug} \quad \text{solve for } x$$

For a single reaction, combine the following components in a sterile PCR tube on ice.

Component	1 µg RNA Volume/reaction
VILO MasterMix	4 µl
Template RNA	Variable up to 1 µg
RNase-free Water	Variable
Total Volume:	20 µl

The total amount in each tube should equal 20 µl, hence the variable volume of water.

- Add 4 µl VILO MasterMix to each tube, volume of RNA calculated, volume of water calculated, and gently mix.
- Place the tubes in a rack and the rack into a 25°C water bath for 10 minutes.
- Place the rack into a 42°C water bath for 60 minutes.
- Then, place racked tubes into 85°C water bath for 5 minutes to terminate the reaction.
- Place samples on ice for a few minutes.
- Centrifuge cDNA.
- Place into -20°C freezer for storage or continue on to PCR.

RNA Concentration (Nanodrop)

Sample ID	Date and Time	Nucleic Acid Conc.	Unit	A260	A280	260/280	260/230	Sample T
356 EL1 Unt	2/5/2018 1:18:50 PM	0.083	µg/µl	2.074	1.109	1.87	1.3	RNA
357 EL1 5 ug/ml Talc	2/5/2018 1:19:20 PM	0.1	µg/µl	2.5	1.342	1.86	1.18	RNA
358 EL1 20 ug/ml Talc	2/5/2018 1:19:39 PM	0.0829	µg/µl	2.073	1.118	1.85	1.26	RNA
359 EL1 100 ug/ml Talc	2/5/2018 1:20:00 PM	0.0349	µg/µl	0.873	0.476	1.84	0.39	RNA
360 SKOV-3 unt	2/5/2018 1:20:24 PM	0.2387	µg/µl	5.968	2.966	2.01	0.78	RNA
361 SKOV-3 5ug/ml	2/5/2018 1:20:43 PM	0.3389	µg/µl	8.473	4.194	2.02	1.15	RNA
362 SKOV-3 20ug/ml	2/5/2018 1:21:04 PM	0.3017	µg/µl	7.542	3.837	1.97	1.47	RNA
363 SKOV-3 100ug/ml	2/5/2018 1:21:20 PM	0.1118	µg/µl	2.796	1.465	1.91	1.53	RNA
364 TOV112 Unt	2/16/2018 9:49:26 AM	0.2401	µg/µl	6.003	2.879	2.09	1.78	RNA
365 TOV112 5 ug/ml Talc	2/16/2018 9:49:46 AM	0.2418	µg/µl	6.044	2.939	2.06	1.27	RNA
366 TOV112 20 ug/ml Talc	2/16/2018 9:50:01 AM	0.2043	µg/µl	5.106	2.459	2.08	1.88	RNA
367 TOV112 100 ug/ml Talc	2/16/2018 9:50:16 AM	0.1712	µg/µl	4.281	2.026	2.11	1.83	RNA
368 A2780 Unt	2/5/2018 1:21:41 PM	0.2203	µg/µl	5.508	2.88	1.91	1.34	RNA
369 A2780 5 ug/ml	2/5/2018 1:21:57 PM	0.2474	µg/µl	6.185	3.187	1.94	2.03	RNA
370 A2780 20 ug/ml	2/5/2018 1:22:12 PM	0.2217	µg/µl	5.541	2.855	1.94	1.63	RNA
371 A2780 100 ug/ml	2/5/2018 1:22:29 PM	0.1336	µg/µl	3.34	1.726	1.93	1.42	RNA
379 FT33 unt	2/16/2018 9:27:37 AM	0.1685	µg/µl	4.212	2.034	2.07	1.01	RNA
380 FT33 5ug/ml	2/16/2018 9:27:55 AM	0.0658	µg/µl	1.645	0.713	2.31	3.02	RNA
381 FT33 20 ug/ml	2/16/2018 9:28:13 AM	0.0801	µg/µl	2.003	0.891	2.25	0.96	RNA
382 FT33 100 ug/ml	2/16/2018 9:28:30 AM	0.3084	µg/µl	7.711	3.759	2.05	2.24	RNA
383 NOE unt	2/16/2018 9:28:51 AM	0.2921	µg/µl	7.303	3.582	2.04	1.09	RNA
384 NOE 5 ug/ml Talc	2/16/2018 9:29:10 AM	0.1812	µg/µl	4.531	2.179	2.08	2.15	RNA
385 NOE 20 ug/ml Talc	2/16/2018 9:29:29 AM	0.0869	µg/µl	2.172	0.971	2.24	1.31	RNA
386 NOE 100 ug/ml Talc	2/16/2018 9:29:51 AM	0.0816	µg/µl	2.289	1.126	2.03	1.43	RNA

0.5 ug RNA Reaction		
ID	ul RNA	ul water
356	6.0	10.0
357	5.0	11.0
358	6.0	10.0
359	14.3	1.7
360	2.1	13.9
361	1.5	14.5
362	1.7	14.3
363	4.5	11.5
364	2.1	13.9
365	2.1	13.9
366	2.4	13.6
367	2.9	13.1
368	2.3	13.7
369	2.0	14.0
370	2.3	13.7
371	3.7	12.3
379	3.0	13.0
380	7.6	8.4
381	6.2	9.8
382	1.6	14.4
383	1.7	14.3
384	2.8	13.2
385	5.8	10.2
386	6.3	9.7

0.5ug RNA was obtained from each sample following dilution as described by this table.

← cDNA (20ul) prepared

2/19/2018 qRT-PCR for β -actin

β -actin test — Standard

— Aliquot Standard

Standard come desiccated

Reconstitute with TE buffer.

Add TE buffer such that the concentration will be $100 \mu\text{M}$

↓ The volume of TE buffer is on the product sheet

Mix well

In a new 1.5ml microtube, add 5ul of standard to each tube

Put tubes into the concentrator machine for 20 minutes — Lids open

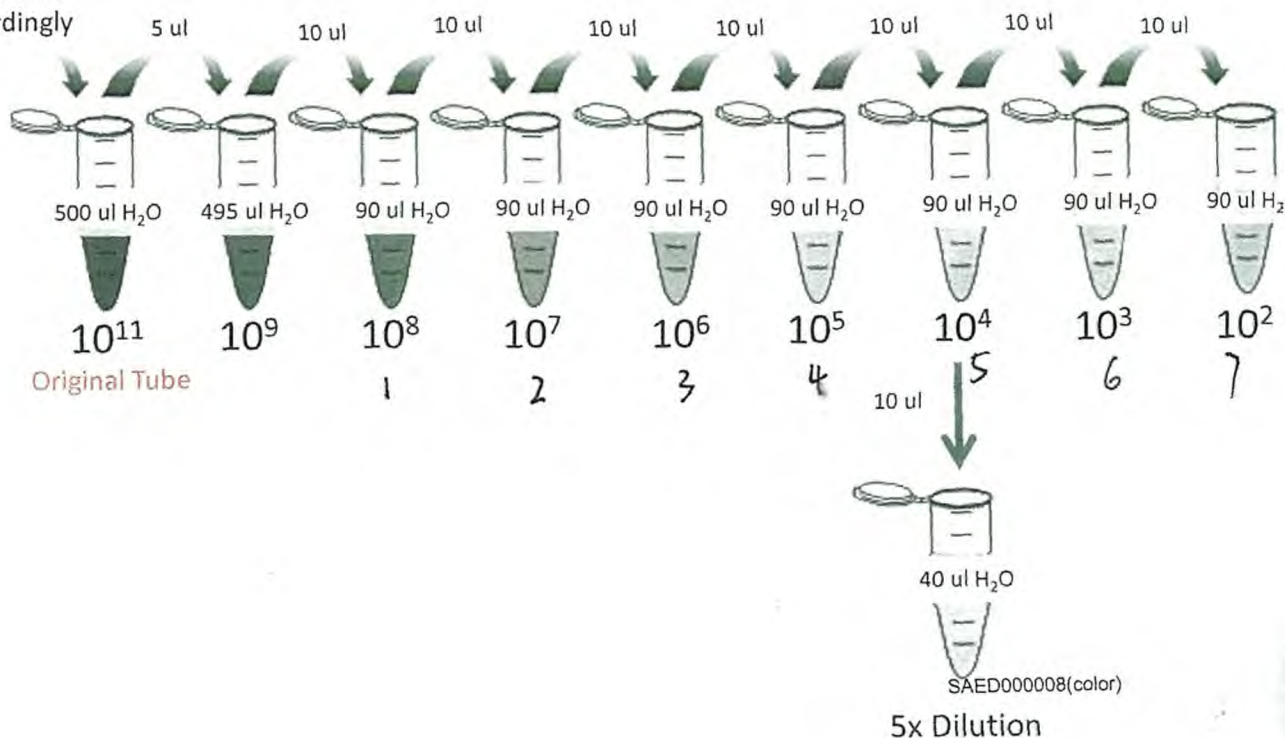
Then close tubes, and label

* Add 500ul PCR water to get a standard that is 10^{11}

Serial Dilution of Standard

Place samples on ice after mixing

Add amount of
 H_2O accordingly



2/19/2018

Run β -actin with samples 356 ~ 386- Do 25 μ L reaction

	Water	9.5 μ L
→	Primer Forward	1 μ L
→	Primer Reverse	1 μ L
→	SYBR Green	12.5 μ L
→	Sample (cDNA)	1 μ L

5 μ M
20x dilution

(Radiant Green Lo-ROX qPCR Kit #Q5105)

- Calculating Mastermix for samples

$$72 \text{ samples} + 1 \text{ blank} = 73$$

$$73 \times 1.17 \text{ extra} = 85.41$$

- Mastermix calculation

$$\text{Water} = 9.5 \times 85.41 = 811.395 \approx 811.4 \mu\text{L}$$

$$\text{primer} = 1 \times 85.41 = 85.4 \mu\text{L}$$

$$\text{SYBR green} = 12.5 \times 85.41 = 1067.625 = 1067.6 \mu\text{L}$$

- Mix then take 80.6 of this mix \rightarrow 1.5 mL tube / 1 per sample
 $73 \times 1.12 \text{ extra} = 80.6 \mu\text{L}$

- Add 3.4 μ L Sample to 1.5 mL tube containing mastermix
 $3 \times 1.12 \text{ extra} = 3.4 \mu\text{L}$

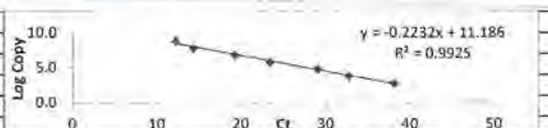
- Mix well, add 25 μ L \rightarrow PCR tube.

3 total per sample

2/19/2018

Run β -actin with samples 356-386

Run Summary (Smart Cycler 2.0d)									
Run Name:	beta-actin 1ul 10x								
Standard Curve:	B-actin Standard RADIANT SYBR								
Started At:	2/19/2018 10:20								
Number of Sites:	72								
Results Table									
Site ID	Protocol	Sample ID	Sample Type	Notes	Status	FAM Std/Res	FAM Ct	Melt Peak1	Y=Log Copy
8	64-10		8 STD		OK	610000000	12.22		79.62 8.8
9	64-10		7 STD		OK	610000000	14.33		79.86 7.8
10	64-10		6 STD		OK	610000000	19.34		79.87 6.8
11	64-10		5 STD		OK	6100000	23.46		79.84 5.8
12	64-10		4 STD		OK	610000	29.09		79.92 4.8
13	64-10		3 STD		OK	61000	32.81		80.08 3.8
14	64-10		2 STD		OK	610	38.18		80.41 2.8
1	b-Actin Radiant SYBR 20	356	UNKN		OK	265995.18	25.68		79.46
2	b-Actin Radiant SYBR 2017		UNKN		OK	273439.209	25.76		79.72
3	b-Actin Radiant SYBR 2017		UNKN		OK	409589.891	24.98		79.72
4	b-Actin Radiant SYBR 20	357	UNKN		OK	387206.6	25.09		79.77
5	b-Actin Radiant SYBR 2017		UNKN		OK	367150.863	25.19		79.65
6	b-Actin Radiant SYBR 2017		UNKN		OK	378555.448	25.13		79.79
7	b-Actin Radiant SYBR 20	358	UNKN		OK	230002.825	26.1		79.81
8	b-Actin Radiant SYBR 2017		UNKN		OK	274451.794	25.76		79.79
9	b-Actin Radiant SYBR 2017		UNKN		OK	204423.921	26.33		79.5
10	b-Actin Radiant SYBR 20	359	UNKN		OK	99410.671	27.73		79.7
11	b-Actin Radiant SYBR 2017		UNKN		OK	95089.887	27.82		79.69
12	b-Actin Radiant SYBR 2017		UNKN		OK	106962.324	27.59		79.93
13	b-Actin Radiant SYBR 20	360	UNKN		OK	82004.156	28.11		79.65
14	b-Actin Radiant SYBR 2017		UNKN		OK	78218.869	28.25		79.68
15	b-Actin Radiant SYBR 2017		UNKN		OK	60210.088	28.15		79.73
16	b-Actin Radiant SYBR 20	361	UNKN		OK	74149.095	28.3		79.69
17	b-Actin Radiant SYBR 2017		UNKN		OK	63584.072	28.07		79.9
18	b-Actin Radiant SYBR 2017		UNKN		OK	36471.637	29.74		79.65
19	b-Actin Radiant SYBR 20	362	UNKN		OK	67751.744	28.48		79.73
20	b-Actin Radiant SYBR 2017		UNKN		OK	61857.724	28.11		79.7
21	b-Actin Radiant SYBR 2017		UNKN		OK	100652.72	27.71		79.71
22	b-Actin Radiant SYBR 20	363	UNKN		OK	77232.773	28.22		79.88
23	b-Actin Radiant SYBR 2017		UNKN		OK	73843.031	28.31		79.65
24	b-Actin Radiant SYBR 2017		UNKN		OK	74279.789	28.3		79.85
25	b-Actin Radiant SYBR 20	364	UNKN		OK	78048.375	28.2		79.75
26	b-Actin Radiant SYBR 2017		UNKN		OK	75382.275	28.27		79.89
27	b-Actin Radiant SYBR 2017		UNKN		OK	67421.281	28.49		79.75
28	b-Actin Radiant SYBR 20	365	UNKN		OK	91845.321	27.89		79.95
29	b-Actin Radiant SYBR 2017		UNKN		OK	92266.631	27.88		79.7
30	b-Actin Radiant SYBR 2017		UNKN		OK	63374.184	28.61		79.77
31	b-Actin Radiant SYBR 20	366	UNKN		OK	41817.434	29.42		79.64
32	b-Actin Radiant SYBR 2017		UNKN		OK	49354.598	29.1		79.77
33	b-Actin Radiant SYBR 2017		UNKN		OK	65999.285	28.53		79.95
34	b-Actin Radiant SYBR 20	367	UNKN		OK	91668.153	27.89		79.92
35	b-Actin Radiant SYBR 2017		UNKN		OK	107294.783	27.58		79.68
36	b-Actin Radiant SYBR 2017		UNKN		OK	110651.012	27.52		79.69
37	b-Actin Radiant SYBR 20	368	UNKN		OK	80904.02	27.95		79.78
38	b-Actin Radiant SYBR 2017		UNKN		OK	77572.459	28.22		79.8
39	b-Actin Radiant SYBR 2017		UNKN		OK	106760.878	27.59		79.83
40	b-Actin Radiant SYBR 20	369	UNKN		OK	138914.317	27.08		79.87
41	b-Actin Radiant SYBR 2017		UNKN		OK	22379.944	30.63		79.83
42	b-Actin Radiant SYBR 2017		UNKN		OK	198224.635	26.39		79.72
43	b-Actin Radiant SYBR 20	370	UNKN		OK	132819.385	27.17		79.76
44	b-Actin Radiant SYBR 2017		UNKN		OK	100097.61	27.72		79.74
45	b-Actin Radiant SYBR 2017		UNKN		OK	46360.317	29.22		79.63
46	b-Actin Radiant SYBR 20	371	UNKN		OK	184842.26	28.52		79.63
47	b-Actin Radiant SYBR 2017		UNKN		OK	202714.758	26.35		79.72
48	b-Actin Radiant SYBR 2017		UNKN		OK	108182.324	27.57		79.81
49	b-Actin Radiant SYBR 20	379	UNKN		OK	307932.328	25.53		79.52
50	b-Actin Radiant SYBR 2017		UNKN		OK	377133.607	25.14		79.75
51	b-Actin Radiant SYBR 2017		UNKN		OK	542309.187	24.43		79.71
52	b-Actin Radiant SYBR 20	380	UNKN		OK	315038.876	25.49		79.88
53	b-Actin Radiant SYBR 2017		UNKN		OK	251730.241	25.92		79.59
54	b-Actin Radiant SYBR 2017		UNKN		OK	310158.171	25.52		79.58
55	b-Actin Radiant SYBR 20	381	UNKN		OK	320994.514	25.4		79.76
56	b-Actin Radiant SYBR 2017		UNKN		OK	298610.861	25.6		79.69
57	b-Actin Radiant SYBR 2017		UNKN		OK	271028.804	25.78		79.33
58	b-Actin Radiant SYBR 20	382	UNKN		OK	202182.58	25.35		79.57
59	b-Actin Radiant SYBR 2017		UNKN		OK	176291.01	26.62		79.73
60	b-Actin Radiant SYBR 2017		UNKN		OK	204290.69	26.33		79.76
61	b-Actin Radiant SYBR 20	383	UNKN		OK	189116.97	25.49		79.53
62	b-Actin Radiant SYBR 2017		UNKN		OK	178951.812	26.81		79.61
63	b-Actin Radiant SYBR 2017		UNKN		OK	185011.186	26.52		79.68
64	b-Actin Radiant SYBR 20	384	UNKN		OK	125937.209	27.23		79.69
65	b-Actin Radiant SYBR 2017		UNKN		OK	126406.079	27.23		79.78
66	b-Actin Radiant SYBR 2017		UNKN		OK	74621.79	28.29		79.63
67	b-Actin Radiant SYBR 20	385	UNKN		OK	115595.389	27.44		79.61
68	b-Actin Radiant SYBR 2017		UNKN		OK	160809.197	26.8		79.74
69	b-Actin Radiant SYBR 2017		UNKN		OK	172272.153	26.88		79.9
70	b-Actin Radiant SYBR 20	386	UNKN		OK	96398.19	27.79		79.71
71	b-Actin Radiant SYBR 2017		UNKN		OK	78347.732	28.2		79.71
72	b-Actin Radiant SYBR 2017		UNKN		OK	77149.198	28.22		79.76



Raw

data

Accession #	Gene	Sequence	Fwd Primer	Rev Primer	Standard Length	Product / Amplicon Length	Start Position
NM_001101	B-actin	ATGACTTAGTTGGCTTACACCTTCTTGACAAACCTA ACTTGGCGAGAAACAAGATGAGATTGGCATGGCTTTA TT	ATGACTTAGTTGGCTTAC	AATAAAGCCATGCCAATCTC	79	79	1220

Calculation data

Initial time (s) at 95 C	Melt time (s) at 95 C	Anneal time (s) and Temp	extension time (s) and temp
60	15	10, 58	30, 72

one of interest		B-actin	Unit	Formula									
Volume = 1.66E-24 grams		1.66E-24	g										
mass of base pair		615	Da										
1g. Mass base		305.25	Da										
length of entire gene		29	bases										
mass of 1 base pair		2.4E-04	Da	number bases x avg mass/base									
mass in grams		4.00E-20	g	mass in Da x mass of 1 Da in grams									
mass in ug		4.00E-14	ug	above / 10E-6									
mass in ng		4.00E-11	ng/copy	above x 10E-1									
/19/2018 10:20													
D	Sample	Copy #	ul cDNA used	copies/ul cDNA	ug RNA used	ul cDNA made	ug RNA/ul cDNA	copies/ug RNA	Dilution Factor	Copies/ug RNA x DF	pg/ug RNA	Avg	Normalized Avg
358	EL1 Unt	285995.18	1	285995	0.5	20	0.025	1.14E+07	10	1.14E+08	4.58	4.48	1.03
		273439.21	1	273439	0.5	20	0.025	1.09E+07	10	1.09E+08	4.38		
		409589.89	1	409589	0.5	20	0.025	1.64E+07	10	1.64E+08	5.56		
357	EL1.5 ug/ml Talc	287206.6	1	287207	0.5	20	0.025	1.15E+07	10	1.15E+08	4.60	4.45	1.02
		267150.86	1	267151	0.5	20	0.025	1.07E+07	10	1.07E+08	4.28		
		278655.45	1	278655	0.5	20	0.025	1.11E+07	10	1.11E+08	4.46		
356	EL1.20 ug/ml Talc	230002.83	1	230003	0.5	20	0.025	9.20E+06	10	9.20E+07	2.68	3.48	0.80
		274451.79	1	274452	0.5	20	0.025	1.10E+07	10	1.10E+08	4.39		
		204423.92	1	204424	0.5	20	0.025	8.18E+06	10	8.18E+07	3.27		
355	EL1.100 ug/ml Talc	294104.67	1	294105	0.5	20	0.025	1.18E+07	10	1.18E+08	4.71	4.36	1.00
		250982.87	1	250983	0.5	20	0.025	1.00E+07	10	1.00E+08	4.02		
		246925.32	1	246925	0.5	20	0.025	9.88E+06	10	9.88E+07	3.95		
354	EXOVA-1 Unt	82004.156	1	82004.2	0.5	20	0.025	3.28E+06	10	3.28E+07	1.31	1.27	1.05
		76218.659	1	76218.7	0.5	20	0.025	3.05E+06	10	3.05E+07	1.22		
		80210.088	1	80210.1	0.5	20	0.025	3.21E+06	10	3.21E+07	1.28		
353	EXOVA-3 5 ug/ml	741149.055	1	741149.1	0.5	20	0.025	2.97E+06	10	2.97E+07	1.19	1.26	1.85
		83584.072	1	83584.1	0.5	20	0.025	3.34E+06	10	3.34E+07	1.34		
		35471.637	1	35471.6	0.5	20	0.025	1.42E+06	10	1.42E+07	0.57		
352	EXOVA-3 20 ug/ml	67751.744	1	67751.7	0.5	20	0.025	2.71E+06	10	2.71E+07	1.08	1.33	1.11
		81687.724	1	81687.7	0.5	20	0.025	3.27E+06	10	3.27E+07	1.31		
		100652.72	1	100653	0.5	20	0.025	4.03E+06	10	4.03E+07	1.61		
351	EXOVA-3 100 ug/ml	77232.773	1	77232.8	0.5	20	0.025	3.09E+06	10	3.09E+07	1.24	1.20	1.00
		73843.031	1	73843	0.5	20	0.025	2.95E+06	10	2.95E+07	1.18		
		74279.769	1	74279.8	0.5	20	0.025	2.97E+06	10	2.97E+07	1.19		
350	TDV112 Unt	78048.375	1	78048.4	0.5	20	0.025	3.12E+06	10	3.12E+07	1.25	1.24	1.69
		75382.275	1	75382.3	0.5	20	0.025	3.02E+06	10	3.02E+07	1.21		
		67421.281	1	67421.3	0.5	20	0.025	2.70E+06	10	2.70E+07	1.08		
349	TDV112 5 ug/ml Talc	91845.321	1	91845.3	0.5	20	0.025	3.67E+06	10	3.67E+07	1.47	1.47	2.02
		92266.631	1	92266.6	0.5	20	0.025	3.69E+06	10	3.69E+07	1.48		
		63374.184	1	63374.2	0.5	20	0.025	2.53E+06	10	2.53E+07	1.01		
348	TDV112 20 ug/ml Talc	41817.434	1	41817.4	0.5	20	0.025	1.67E+06	10	1.67E+07	0.67	0.73	1.00
		49354.598	1	49354.6	0.5	20	0.025	1.97E+06	10	1.97E+07	0.79		
		65999.285	1	65999.3	0.5	20	0.025	2.64E+06	10	2.64E+07	1.06		
347	TDV112 100 ug/ml	91668.153	1	91668.2	0.5	20	0.025	3.67E+06	10	3.67E+07	1.47	1.74	2.39
		107294.78	1	107295	0.5	20	0.025	4.29E+06	10	4.29E+07	1.72		
		110651.01	1	110651	0.5	20	0.025	4.43E+06	10	4.43E+07	1.77		
346	A2780 Unt	89094.02	1	89094	0.5	20	0.025	3.56E+06	10	3.56E+07	1.43	1.33	1.00
		77572.459	1	77572.5	0.5	20	0.025	3.10E+06	10	3.10E+07	1.24		
		106760.88	1	106761	0.5	20	0.025	4.27E+06	10	4.27E+07	1.71		
345	A2780 5 ug/ml	138914.32	1	138914	0.5	20	0.025	5.66E+06	10	5.66E+07	2.22	2.70	2.02
		22379.944	1	22379.9	0.5	20	0.025	8.95E+05	10	8.95E+06	0.36		
		198224.64	1	198225	0.5	20	0.025	7.93E+06	10	7.93E+07	3.17		
344	A2780 20 ug/ml	132819.39	1	132819	0.5	20	0.025	5.31E+06	10	5.31E+07	2.13	1.86	1.40
		100097.61	1	100098	0.5	20	0.025	4.00E+06	10	4.00E+07	1.60		
		46360.317	1	46360.3	0.5	20	0.025	1.85E+06	10	1.85E+07	0.74		
343	A2780 100 ug/ml	184842.26	1	184842	0.5	20	0.025	7.39E+06	10	7.39E+07	2.96	3.10	2.33
		202714.76	1	202715	0.5	20	0.025	8.11E+06	10	8.11E+07	3.25		
		108192.32	1	108192	0.5	20	0.025	4.33E+06	10	4.33E+07	1.73		
342	FT33 Unt	307932.33	1	307932	0.5	20	0.025	1.23E+07	10	1.23E+08	4.93	5.48	1.26
		377133.61	1	377134	0.5	20	0.025	1.51E+07	10	1.51E+08	6.04		
		542309.19	1	542309	0.5	20	0.025	2.17E+07	10	2.17E+08	8.68		
340	FT33 5ug/ml	315038.88	1	315039	0.5	20	0.025	1.26E+07	10	1.26E+08	5.04	4.54	1.04
		251730.24	1	251730	0.5	20	0.025	1.01E+07	10	1.01E+08	4.03		
		310158.17	1	310158	0.5	20	0.025	1.24E+07	10	1.24E+08	4.97		
339	FT33 20ug/ml	328994.51	1	328995	0.5	20	0.025	1.32E+07	10	1.32E+08	5.27	4.54	1.64
		296610.66	1	296611	0.5	20	0.025	1.19E+07	10	1.19E+08	4.75		
		271028.8	1	271029	0.5	20	0.025	1.06E+07	10	1.06E+08	4.34		
337	FT33 100 ug/ml	202182.58	1	202183	0.5	20	0.025	8.09E+06	10	8.09E+07	3.24	3.25	2.71
		176291.01	1	176291	0.5	20	0.025	7.06E+06	10	7.06E+07	2.82		
		204290.69	1	204291	0.5	20	0.025	8.17E+06	10	8.17E+07	3.27		
335	HOE unt	188116.97	1	188117	0.5	20	0.025	7.52E+06	10	7.52E+07	3.01	2.94	2.44
		176951.81	1	176952	0.5	20	0.025	7.08E+06	10	7.08E+07	2.83		
		185011.19	1	185011	0.5	20	0.025	7.40E+06	10	7.40E+07	3.96		
334	HOE 5ug/ml	128937.21	1	128937	0.5	20	0.025	5.16E+06	10	5.16E+07	2.06	2.08	1.71
		128406.08	1	128406	0.5	20	0.025	5.14E+06	10	5.14E+07	2.06		
		74621.79	1	74621.8	0.5	20	0.025	2.98E+06	10	2.98E+07	1.19		
333	HOE 10ug/ml	115595.39	1	115596	0.5	20	0.025	4.62E+06	10	4.62E+07	1.85	2.67	2.00
		160609.2	1	160609	0.5	20	0.025	6.42E+06	10	6.42E+07	2.57		
		172272.15	1	172272	0.5	20	0.025	6.80E+06	10	6.80E+07	2.76		
330	HOE 100 ug/ml	96396.19	1	96396.2	0.1856	20	0.00828	1.04E+07	10	1.04E+08	4.16	3.35	2.51
		78347.732	1	78347.7	0.1659	20	0.00828	8.44E+06	10	8.44E+07	3.38		
		77149.198	1	77149.2	0.1856	20	0.00828	8.31E+06	10	8.31E+07	3.33		

SAED000011(color)

2/19/2018

Run qPCR CAT with samples 356 ~ 386

Primer info

Accession #	Gene	Sequence	Fwd Primer	Rev Primer	Standard Length	Product / Amplicon Length	Start Position
NM_001852 Ordered Feb 2015	CAT	GGTTGAACAGATAGCCTTCGACCAAGCAACATGCCAC CTGGCATTGAGGCCAGTCTGACAAAATGCTTCAGGGC CGCCTTTTTCCTATCTGACACTCACC	GGTTGAACAGATAGCCTTC	CGGTGAGTGTCCAGGATAG	105	105	1073

Raw data

Initial time (s) at 95 C	Melt time at 95 C	Anneal time (s) and Temp	extension time (s) and temp
60	15	10, 60	30, 72

Run Summary (Smart Cycler 2.0)														
Run Name: CAT 256-370 Jul 10x														
Std Curve: CAT Standard RADIANT SYBR														
Started At: 2/19/2018 14:30														
Number of: 52														
Results Table														
Site ID	Protocol	Sample ID	Sample Type	Notes	Status	FAM 530/R0	FAM Ct	Cy2 StdRes	Cy2 Ct	TaR StdRes	TaR Ct	Cys Ct	Melt Peak T	Y-Log Copy
C15	67-10		8 STD		OK	606000000	12.2	0	16.91	0	0	0	85.45	8.8
C19	67-10		7 STD		OK	606000000	13.34	0	0	0	0	0	85.38	7.8
D1	67-10		6 STD		OK	606000000	15.73	0	29.83	0	0	0	85.45	5.8
D2	67-10		5 STD		OK	6060000	22.55	0	29.64	0	0	0	85.43	5.8
D3	67-10		4 STD		OK	606000	27.97	0	32.92	0	0	0	85.47	4.8
D4	67-10		3 STD		OK	60600	32.1	0	37.43	0	0	0	85.61	3.8
D5	67-10		2 STD		OK	6060	36.4	0	0	0	0	0	85.74	2.8
A2	CAT - RADIANT SYBR 2017	356	UNKN		OK	17855 978	29.94	17678 93714	0	ND	0	0	85.43	
A3	CAT - RADIANT SYBR 2017		UNKN		OK	16139 221	30.13	15950 97166	0	ND	0	0	85.50	
A4	CAT - RADIANT SYBR 2017		UNKN		OK	4915 959	32.32	4874 36504	0	ND	0	0	85.49	
A5	CAT - RADIANT SYBR 2017	357	UNKN		OK	12459 444	30.59	12400 50223	0	ND	0	0	85.36	
A6	CAT - RADIANT SYBR 2017		UNKN		OK	10272 547	30.96	10177 80459	0	ND	0	0	85.43	
A7	CAT - RADIANT SYBR 2017		UNKN		OK	14937 016	30.77	14786 76380	0	ND	0	0	85.33	
A8	CAT - RADIANT SYBR 2017	358	UNKN		OK	80205 3	31.41	7985 83205	0	ND	0	0	85.49	
A9	CAT - RADIANT SYBR 2017		UNKN		OK	8563 013	31.29	8521 143499	0	ND	0	0	85.18	
A10	CAT - RADIANT SYBR 2017		UNKN		OK	7784 922	31.46	7748 542858	0	ND	0	0	85.15	
A11	CAT - RADIANT SYBR 2017	259	UNKN		OK	5724 982	32.03	5685 902993	0	ND	0	0	85.3	
A12	CAT - RADIANT SYBR 2017		UNKN		OK	5383 508	32.15	5256 12657	0	ND	0	0	85.50	
A13	CAT - RADIANT SYBR 2017		UNKN		OK	4531 314	32.47	4494 20571	0	ND	0	0	85.51	
A14	CAT - RADIANT SYBR 2017	360	UNKN		OK	1179 499	30.79	11125 10717	0	ND	0	0	85.44	
A15	CAT - RADIANT SYBR 2017		UNKN		OK	1030 117	30.98	10081 30627	0	ND	0	0	85.47	
A16	CAT - RADIANT SYBR 2017		UNKN		OK	1112 669	30.97	10103 75917	0	ND	0	0	85.64	
B1	CAT - RADIANT SYBR 2017	361	UNKN		OK	1720 575	35.87	213 3668093	0	ND	0	0	85.09	
B2	CAT - RADIANT SYBR 2017		UNKN		OK	1536 288	36.42	529 6730491	0	ND	0	0	85.7	
B3	CAT - RADIANT SYBR 2017		UNKN		OK	1454 544	38.72	152 902786	0	ND	0	0	85.65	
B4	CAT - RADIANT SYBR 2017	362	UNKN		OK	988 97	35.29	976 4970234	0	ND	0	0	85.51	
B5	CAT - RADIANT SYBR 2017		UNKN		OK	892 134	36.24	503 8630707	0	ND	0	0	85.65	
B6	CAT - RADIANT SYBR 2017		UNKN		OK	743 008	37.24	339 8015296	0	ND	0	0	85.71	
B7	CAT - RADIANT SYBR 2017	363	UNKN		OK	930 122	35.40	920 0467999	0	ND	0	0	85.51	
B8	CAT - RADIANT SYBR 2017		UNKN		OK	891 701	35.48	881 0625964	0	ND	0	0	85.47	
B9	CAT - RADIANT SYBR 2017		UNKN		OK	917 542	36.04	162 72633	0	ND	0	0	85.56	
B10	CAT - RADIANT SYBR 2017	364	UNKN		OK	9774 808	31.94	9727 551428	0	ND	0	0	85.78	
B11	CAT - RADIANT SYBR 2017		UNKN		OK	8772 54	31.24	8729 725841	0	ND	0	0	85.78	
B12	CAT - RADIANT SYBR 2017		UNKN		OK	7079 590	31.64	7044 42906	0	ND	0	0	85.82	
B13	CAT - RADIANT SYBR 2017	365	UNKN		OK	6450 657	31.81	6418 341978	0	ND	0	0	85.52	
B14	CAT - RADIANT SYBR 2017		UNKN		OK	6345 112	31.84	6313 281374	0	ND	0	0	85.73	
B15	CAT - RADIANT SYBR 2017		UNKN		OK	6548 981	31.78	6516 215381	0	ND	0	0	85.96	
B16	CAT - RADIANT SYBR 2017	366	UNKN		OK	4356 817	32.54	4334 367044	0	ND	0	0	85.61	
C1	CAT - RADIANT SYBR 2017		UNKN		OK	4125 08	32.54	4103 814077	0	ND	0	0	85.67	
C2	CAT - RADIANT SYBR 2017		UNKN		OK	4205 28	32.60	4183 45132	0	ND	0	0	85.63	
C4	CAT - RADIANT SYBR 2017	357	UNKN		OK	470 867	30.59	12400 50223	0	ND	0	0	85.53	
C5	CAT - RADIANT SYBR 2017		UNKN		OK	269 742	30.96	10177 80499	0	ND	0	0	85.57	
C6	CAT - RADIANT SYBR 2017		UNKN		OK	832 75	30.27	14786 76380	0	ND	0	0	85.72	
C7	CAT - RADIANT SYBR 2017	368	UNKN		OK	13187 089	30.49	13125 02211	0	ND	0	0	85.75	
C8	CAT - RADIANT SYBR 2017		UNKN		OK	11210 87	30.79	11157 23228	0	ND	0	0	85.58	
C9	CAT - RADIANT SYBR 2017		UNKN		OK	12105 843	30.65	12048 42634	0	ND	0	0	85.78	
C10	CAT - RADIANT SYBR 2017	369	UNKN		OK	7785 982	31.46	7747 598091	0	ND	0	0	85.68	
C11	CAT - RADIANT SYBR 2017		UNKN		OK	9185 252	31.18	9140 812872	0	ND	0	0	85.59	
C12	CAT - RADIANT SYBR 2017		UNKN		OK	8973 241	31.20	8929 543543	0	ND	0	0	85.59	
C13	CAT - RADIANT SYBR 2017	370	UNKN		OK	6524 891	31.79	6492 236722	0	ND	0	0	85.61	
C14	CAT - RADIANT SYBR 2017		UNKN		OK	5247 982	32.19	5221 232205	0	ND	0	0	85.66	
C15	CAT - RADIANT SYBR 2017	371	UNKN		OK	5986 997	31.95	5966 815505	0	ND	0	0		

2/19/2018

Run qPCR CAT with samples 356 ~ 386

Primer info

Accession #	Gene	Sequence	Fwd Primer	Rev Primer	Standard Length	Product / Amplicon Length	Start Position
NM_001852 Ordered Feb 2015	CAT	GGTTGAACAGATAGCCTTCGACCAAGCAACATGCCAC CTGGCATTGAGGCCAGTCTTGACAAAATGCTTCAGGGC CGCCTTTTGGCTATCCTGACACTACCG	GGTTGAACAGATAGCCTTC	CGGTGAGTGTGAGGATAG	105	105	1073

Raw data

Initial time (s) at 95 C	Melt time at 95 C	Anneal time (s) and Temp	extension time (s) and temp
60	15	10, 60	30, 72

Run Summary (Smart Cycler 2.0)													
Run Name: CAT 356-370 Jul 10c													
Std Curve: CAT Standard RADIANT SYBR													
Started At: 2/19/2018 14:30													
Number of: 51													
Results Table													
Site ID	Protocol	Sample ID	Sample Type	Notes	Status	FAM Slope	FAM Ct	Cy3 Slope	Cy3 Ct	TyT Slope	TyT Ct	Cy5 Ct	Melt Peak1
C15	67-10	8 STD	OK		OK	606000000	12.2	0	16.91	0	0	0	85.45
C16	67-10	7 STD	OK		OK	606000000	13.94	0	0	0	0	0	85.38
D1	67-10	8 STD	OK		OK	606000000	18.73	0	23.83	0	0	0	85.40
D2	67-10	5 STD	OK		OK	6060000	22.55	0	26.61	0	0	0	85.43
D3	67-10	4 STD	OK		OK	606000	27.27	0	32.92	0	0	0	85.42
D4	67-10	3 STD	OK		OK	60600	32.1	0	37.43	0	0	0	85.01
D5	67-10	2 STD	OK		OK	6060	36.4	0	0	0	0	0	85.74
A2	CAT - RADIANT SYBR 2017	356 UNKN	OK		OK	17855.978	29.94	17878.93714	0	ND	0	0	85.47
A3	CAT - RADIANT SYBR 2017	UNKN	OK		OK	16139.221	30.13	15990.97166	0	ND	0	0	85.50
A4	CAT - RADIANT SYBR 2017	UNKN	OK		OK	4915.959	32.32	4874.38504	0	ND	0	0	85.48
A5	CAT - RADIANT SYBR 2017	357 UNKN	OK		OK	12459.444	30.59	12460.50203	0	ND	0	0	85.43
A6	CAT - RADIANT SYBR 2017	UNKN	OK		OK	10272.547	30.99	10177.80459	0	ND	0	0	85.33
A7	CAT - RADIANT SYBR 2017	UNKN	OK		OK	14937.016	30.27	14786.76389	0	ND	0	0	85.49
A8	CAT - RADIANT SYBR 2017	358 UNKN	OK		OK	80205.3	21.41	7985.82605	0	ND	0	0	85.19
A9	CAT - RADIANT SYBR 2017	UNKN	OK		OK	8563.013	31.29	8071.43469	0	ND	0	0	85.15
A10	CAT - RADIANT SYBR 2017	UNKN	OK		OK	7754.523	31.46	7745.547859	0	ND	0	0	85.3
A11	CAT - RADIANT SYBR 2017	359 UNKN	OK		OK	5724.922	32.00	5686.382093	0	ND	0	0	85.58
A12	CAT - RADIANT SYBR 2017	UNKN	OK		OK	5383.506	32.15	5256.12697	0	ND	0	0	85.51
A13	CAT - RADIANT SYBR 2017	UNKN	OK		OK	4531.314	32.47	4484.20671	0	ND	0	0	85.44
A14	CAT - RADIANT SYBR 2017	360 UNKN	OK		OK	1178.499	30.79	11125.10217	0	ND	0	0	85.47
A15	CAT - RADIANT SYBR 2017	UNKN	OK		OK	1030.117	30.66	10081.30627	0	ND	0	0	85.44
A16	CAT - RADIANT SYBR 2017	UNKN	OK		OK	1112.699	30.97	10103.75917	0	ND	0	0	85.44
B1	CAT - RADIANT SYBR 2017	361 UNKN	OK		OK	1720.575	35.87	713.3088983	0	ND	0	0	85.7
B2	CAT - RADIANT SYBR 2017	UNKN	OK		OK	1536.238	36.42	529.6730491	0	ND	0	0	85.85
B3	CAT - RADIANT SYBR 2017	UNKN	OK		OK	1454.544	38.72	152.502786	0	ND	0	0	85.51
B4	CAT - RADIANT SYBR 2017	362 UNKN	OK		OK	888.27	35.29	976.497834	0	ND	0	0	85.65
B5	CAT - RADIANT SYBR 2017	UNKN	OK		OK	892.134	36.34	583.894507	0	ND	0	0	85.75
B6	CAT - RADIANT SYBR 2017	UNKN	OK		OK	743.058	37.24	339.8918294	0	ND	0	0	85.51
B7	CAT - RADIANT SYBR 2017	363 UNKN	OK		OK	925.122	36.40	920.0467008	0	ND	0	0	85.47
B8	CAT - RADIANT SYBR 2017	UNKN	OK		OK	891.701	36.49	891.0627904	0	ND	0	0	85.56
B9	CAT - RADIANT SYBR 2017	UNKN	OK		OK	612.642	38.60	182.736003	0	ND	0	0	85.38

Run Summary (Smart Cycler 2.0)													
Run Name: CAT 356-370 Jul 10c													
Std Curve: CAT Standard RADIANT SYBR													
Started At: 2/18/2018 17:17													
Number of: 45													
Results Table													
Site ID	Protocol	Sample ID	Sample Type	Notes	Status	FAM Slope	Cy3 Slope	Cy3 Ct	TyT Slope	TyT Ct	Cy5 Ct	Melt Peak1	
C15	67-10	8 STD	OK		OK	606000000	32.63	0	19.91	0	0	85.45	
C16	67-10	7 STD	OK		OK	606000000	32.96	0	0	0	0	85.38	
D1	67-10	5 STD	OK		OK	6060000.5	36.35	0	23.83	0	0	85.46	
D2	67-10	5 STD	OK		OK	6060000	35.99	0	29.61	0	0	85.43	
D3	67-10	4 STD	OK		OK	606000	36.00	0	32.92	0	0	85.47	
D4	67-10	3 STD	OK		OK	60600	38.26	0	37.43	0	0	85.81	
D5	67-10	2 STD	OK		OK	6060	39.22	0	0	0	0	85.74	
A1	CAT - RADIANT SYBR 2017	371 UNKN	OK		OK	1532.565	34.47	1523.854788	0	ND	0	85.27	
A2	CAT - RADIANT SYBR 2017	UNKN	OK		OK	1236.764	34.96	1229.703382	0	ND	0	85.52	
A3	CAT - RADIANT SYBR 2017	UNKN	OK		OK	1250.345	34.84	1243.219829	0	ND	0	85.7	
A4	CAT - RADIANT SYBR 2017	372 UNKN	OK		OK	13751.972	31.69	8488.789487	0	ND	0	85.53	
A5	CAT - RADIANT SYBR 2017	UNKN	OK		OK	14752.394	31.34	8281.755638	0	ND	0	85.48	
A6	CAT - RADIANT SYBR 2017	UNKN	OK		OK	15528.954	31.49	7941.631079	0	ND	0	85.32	
A7	CAT - RADIANT SYBR 2017	380 UNKN	OK		OK	12011.51	31.84	8312.885701	0	ND	0	85.48	
A8	CAT - RADIANT SYBR 2017	UNKN	OK		OK	15458.082	31.80	8257.784643	0	ND	0	85.32	
A9	CAT - RADIANT SYBR 2017	UNKN	OK		OK	14021.856	31.78	8529.18253	0	ND	0	85.15	
A10	CAT - RADIANT SYBR 2017	381 UNKN	OK		OK	9278.117	32.52	4375.630618	0	ND	0	85.52	
A11	CAT - RADIANT SYBR 2017	UNKN	OK		OK	8741.24	32.63	4123.440981	0	ND	0	85.4	
A12	CAT - RADIANT SYBR 2017	UNKN	OK		OK	5417.343	32.58	4277.101371	0	ND	0	85.3	
A13	CAT - RADIANT SYBR 2017	382 UNKN	OK		OK	11019.777	36.35	350.980646	0	ND	0	85.59	
A14	CAT - RADIANT SYBR 2017	UNKN	OK		OK	10563.774	35.99	868.905921	0	ND	0	85.43	
A15	CAT - RADIANT SYBR 2017	UNKN	OK		OK	8467.413	36.00	684.8291876	0	ND	0	85.46	
A16	CAT - RADIANT SYBR 2017	383 UNKN	OK		OK	8763.023	36.24	15035.75313	0	ND	0	85.4	
B1	CAT - RADIANT SYBR 2017	UNKN	OK		OK	8932.902	36.27	15218.36365	0	ND	0	85.7	
B2	CAT - RADIANT SYBR 2017	UNKN	OK		OK	7723.593	36.20	15316.80287	0	ND	0	85.50	
B3	CAT - RADIANT SYBR 2017	384 UNKN	OK		OK	4509.33	34.09	1888.845006	0	ND	0	85.06	
B4	CAT - RADIANT SYBR 2017	UNKN	OK		OK	4792.009	34.16	1779.286131	0	ND	0	85.14	
B5	CAT - RADIANT SYBR 2017	UNKN	OK		OK	3580.332	34.08	1875.863202	0	ND	0	85.61	
B6	CAT - RADIANT SYBR 2017	385 UNKN	OK		OK	14691.73	35.48	883.7828164	0	ND	0	85.55	
B7	CAT - RADIANT SYBR 2017	UNKN	OK		OK	13688.861	35.51	866.9833264	0	ND	0	85.38	
B8	CAT - RADIANT SYBR 2017	UNKN	OK		OK	12783.956	36.04	807.210783	0	ND	0	85.7	
B9	CAT - RADIANT SYBR 2017	386 UNKN	OK		OK	11571.379	35.98	873.882489	0	ND	0	85.35	
B10	CAT - RADIANT SYBR 2017	UNKN	OK		OK	11590.693	36.20	895.8823513	0	ND	0	85.69	
B11	CAT - RADIANT SYBR 2017	UNKN	OK		OK	12700.554	36.13	619.2435347	0	ND	0	85.48	

SAED000013(color)

SAED000013(color)

SAED000014(color)

42

Primer information & Calculation

Initial time (s) at 95 C	Melt time at 95 C	Anneal time (s) and Temp	extension time (s) and temp
60	15	10, 59	30, 72

Accession #	Gene	Sequence	Fwd Primer	Rev Primer	Standard Length	Product Length	Start Position
NM_000637	GSR	AAT CTC ACC AAG TCC CAT ATA GAA ATC ATC CGT GGC CAT AAG CCC ACA ATA GAG GTC AGT GGG AAA AAG TAC ACC GCC CCA CAC ATC CTG ATC GCC ACA GGT G	TCACCAAGTCCCATATAGAAATC	TGTGGGATCAGGATGTG	103	116	

ID	Sample	Copy #	ul cDNA used	copies/ul cDNA	ug RNA used	ul cDNA made	ug RNA/cDNA	copies/ug RNA	Dilution Factor	Copies/ug RNA x DF	10 ⁶ /ug RNA	Normalized	Average	St Dev
355	EL1 Unt 72 hr	2491697.3	3	830565.78	0.5	20	0.025	3.32E+07	10	3.32E+08	97.34	16.89	10.25	7.30E12
		3187655.3	3	1062818.4	0.5	20	0.025	4.25E+07	10	4.25E+08	22.15	21.62		
		6497579.9	2	2165860	0.5	20	0.025	8.66E+07	10	8.66E+08	45.22	44.06		
357	EL1 5 ug/ml Talc	2550060.2	3	850020.07	0.5	20	0.025	3.40E+07	10	3.40E+08	17.75	17.42	10.71	1.27E13
		1465722	3	488574.01	0.5	20	0.025	1.95E+07	10	1.95E+08	10.20	10.01		
		2176688.1	3	725626.68	0.5	20	0.025	2.90E+07	10	2.90E+08	15.15	14.87		
358	EL1 20 ug/ml Talc	1215145.6	3	405048.52	0.5	20	0.025	1.82E+07	10	1.82E+08	8.46	10.61	10.10	0.588E1
		1332012.2	3	444004.07	0.5	20	0.025	1.73E+07	10	1.78E+08	9.27	11.63		
		1119636	3	373205.33	0.5	20	0.025	1.49E+07	10	1.49E+08	7.79	9.78		
359	EL1 100 ug/ml Talc	747387.01	3	248129.67	0.5	20	0.025	9.97E+06	10	9.97E+07	5.20	5.20	5.43	0.524E15
		674840.12	3	224948.71	0.5	20	0.025	9.00E+06	10	9.00E+07	4.70	4.70		
		613350.59	3	271119.53	0.5	20	0.025	1.08E+07	10	1.08E+08	5.66	5.66		
363	Nakal traxen Unt 72 hr	1630605.2	3	543535.08	0.5	20	0.025	2.17E+07	10	2.17E+08	11.25	10.72	10.57	0.221E13
		1562898.7	3	527832.9	0.5	20	0.025	2.11E+07	10	2.11E+08	11.02	10.41		
		1475190.9	3	491730.3	0.5	20	0.025	1.97E+07	10	1.97E+08	10.27	9.70		
364	5 ug/ml	1533631.1	3	511210.37	0.5	20	0.025	2.04E+07	10	2.04E+08	10.67	10.17	9.68	0.118E14
		1381068.6	3	460356.2	0.5	20	0.025	1.84E+07	10	1.84E+08	9.61	9.15		
		994223.62	3	331407.87	0.5	20	0.025	1.33E+07	10	1.33E+08	6.92	6.59		
365	20 ug/ml	1232346.2	3	410782.07	0.5	20	0.025	1.64E+07	5	8.22E+07	4.29	3.86	4.79	0.303E17
		1454072.8	3	484690.93	0.5	20	0.025	1.94E+07	5	9.69E+07	5.06	4.56		
		1604451.2	3	534817.08	0.5	20	0.025	2.14E+07	5	1.07E+08	5.58	5.03		
366	100 ug/ml	1313932.9	3	437977.64	0.5	20	0.025	1.75E+07	5	8.78E+07	4.57	4.57	4.45	0.173E18
		1243346	3	414448.65	0.5	20	0.025	1.68E+07	5	8.29E+07	4.33	4.33		
		1120583.9	3	373527.98	0.5	20	0.025	1.49E+07	5	7.47E+07	3.90	3.90		
379	FT3 Unt 72 hr	832867.79	3	277822.8	0.5	20	0.025	1.11E+07	30	3.33E+08	17.39	10.27	10.81	0.052777
		904011.83	3	301337.28	0.5	20	0.025	1.21E+07	30	3.62E+08	18.87	11.15		
		838919.22	3	279638.74	0.5	20	0.025	1.12E+07	30	3.36E+08	17.51	10.35		
380	5 ug/ml Talc	911978.59	3	303992.86	0.5	20	0.025	1.22E+07	20	2.43E+08	12.69	6.29	8.21	0.104E16
		890503.79	3	296834.6	0.5	20	0.025	1.19E+07	20	2.37E+08	12.39	6.14		
		924489.78	3	308163.26	0.5	20	0.025	1.23E+07	20	2.47E+08	12.87	6.37		
381	20 ug/ml Talc	892768.92	3	297589.64	0.5	20	0.025	1.19E+07	5	5.95E+07	3.11	3.11	3.05	0.064759
		903235.03	3	301078.34	0.5	20	0.025	1.20E+07	5	6.02E+07	3.14	3.14		
		858318.88	3	286106.29	0.5	20	0.025	1.14E+07	5	5.72E+07	2.99	2.99		
382	100 ug/ml Talc	937151.75	3	312383.92	0.5	20	0.025	1.25E+07	10	1.25E+08	6.52	2.73	2.72	0.050714
		914716.16	3	304905.39	0.5	20	0.025	1.22E+07	10	1.22E+08	6.37	2.66		
		955679.54	3	318559.85	0.5	20	0.025	1.27E+07	10	1.27E+08	6.65	2.78		
383	2NDV-3 Unt 72 hr	1630605.2	3	543535.08	0.5	20	0.025	2.17E+07	10	2.17E+08	11.35	11.35	11.15	0.234E16
		1532898.7	3	527632.9	0.5	20	0.025	2.11E+07	10	2.11E+08	11.02	11.02		
		1475190.9	3	491730.3	0.5	20	0.025	1.97E+07	10	1.97E+08	10.27	10.27		
384	5 ug/ml	1533631.1	3	511210.37	0.5	20	0.025	2.04E+07	10	2.04E+08	10.67	5.28	5.01	0.374E18
		1381068.6	3	460356.2	0.5	20	0.025	1.84E+07	10	1.84E+08	9.61	4.75		
		994223.62	3	331407.87	0.5	20	0.025	1.33E+07	10	1.33E+08	6.92	3.42		
385	20 ug/ml	1232346.2	3	410782.07	0.5	20	0.025	1.64E+07	5	8.22E+07	4.29	3.07	3.81	0.284E16
		1454072.8	3	484690.93	0.5	20	0.025	1.94E+07	5	9.69E+07	5.06	3.62		
		1604451.2	3	534817.08	0.5	20	0.025	2.14E+07	5	1.07E+08	5.58	3.99		
386	100 ug/ml	1313932.9	3	437977.64	0.5	20	0.025	1.75E+07	5	8.78E+07	4.57	1.97	1.91	0.078E16
		1243346	3	414448.65	0.5	20	0.025	1.68E+07	5	8.29E+07	4.33	1.86		
		1120583.9	3	373527.98	0.5	20	0.025	1.49E+07	5	7.47E+07	3.90	1.69		
387	TDV12 Unt 72 hr	832867.79	3	277822.8	0.5	20	0.025	1.11E+07	30	3.33E+08	17.39	13.83	13.68	0.073E16
		904011.83	3	301337.28	0.5	20	0.025	1.21E+07	30	3.62E+08	18.87	15.02		
		838919.22	3	279638.74	0.5	20	0.025	1.12E+07	30	3.36E+08	17.51	13.94		
388	TDV12 5 ug/ml Talc	911978.59	3	303992.86	0.5	20	0.025	1.22E+07	20	2.43E+08	12.69	12.21	12.06	0.207E16
		890503.79	3	296834.6	0.5	20	0.025	1.19E+07	20	2.37E+08	12.39	11.92		
		924489.78	3	308163.26	0.5	20	0.025	1.23E+07	20	2.47E+08	12.87	12.37		
389	TDV12 20 ug/ml Talc	892768.92	3	297589.64	0.5	20	0.025	1.19E+07	5	5.95E+07	3.11	2.95	2.83	0.081E16
		903235.03	3	301078.34	0.5	20	0.025	1.20E+07	5	6.02E+07	3.14	3.02		
		858318.88	3	286106.29	0.5	20	0.025	1.14E+07	5	5.72E+07	2.99	2.87		
390	TDV12 100 ug/ml Talc	937151.75	3	312383.92	0.5	20	0.025	1.25E+07	10	1.25E+08	6.52	2.41	2.41	0.082E16
		914716.16	3	304905.39	0.5	20	0.025	1.22E+07	10	1.22E+08	6.37	2.35		
		955679.54	3	318559.85	0.5	20	0.025	1.27E+07	10	1.27E+08	6.65	2.46		
391	A2783 Unt 72 hr	300868.73	3	300286.58	0.5	20	0.025	1.20E+07	10	1.20E+08	6.27	6.27	6.81	0.018E16
		971821.88	3	323840.63	0.5	20	0.025	1.30E+07	10	1.30E+08	6.76	6.76		
		975332.42	3	325110.81	0.5	20	0.025	1.30E+07	10	1.30E+08	6.79	6.79		
392	5 ug/ml	391645.03	3	130548.34	0.5	20	0.025	5.22E+06	10	5.22E+07	2.73	1.59	4.67	0.213E16
		1038721.6	3	348240.53	0.5	20	0.025	1.38E+07	10	1.38E+08	7.23	4.22		
		964544.98	3	321514.99	0.5	20	0.025	1.29E+07	10	1.29E+08	6.71	3.92		
393	20 ug/ml	1248521.6	3	418173.86	0.5	20	0.025	1.68E+07	10	1.68E+08	8.69	4.35	3.33	0.188E16
		989162.63	3	329720.88	0.5	20	0.025	1.32E+07	10	1.32E+08	6.88	3.45		
		915563.77	3	305187.92	0.5	20	0.025	1.22E+07	10	1.22E+08	6.37	3.19		
394	100 ug/ml	922938.92	3	307848.31	0.5	20	0.025	1.23E+07	10	1.23E+08	6.42	2.58	2.45	0.218E16
		813667.53	3	271222.51	0.5	20	0.025	1.08E+07	10	1.08E+08	5.69	2.25		
		1096341.3	3	368447.1	0.5	20	0.025	1.48E+07	10	1.48E+08	7.63	3.04		

SAED000016(color)

Accession #	Gene	Sequence	Fwd Primer	Rev Primer	Standard Length	Product / Amplicon Length	Start Position
NM_000625	INOS Dec	GAGGACCACATCTACCAGGAGGAGATGCTGGAGATGG CCCAGAAGGGGGTGTGTCATGCGGTGCACACAGCCTAT TCCCGCTCGGCTGG	GAGGACCACATCTACCAGGA	CCAGGCAGGCGGGAATAG	89	89	3325

Initial time (s) at 95 C	Melt time at 95 C	Anneal time (s) and Temp	extension time (s) and temp
60	15	10,64	30,72

Raw data

Run Summary (Smart Cycle 2.06)															
Run #41608 SU 10s															
Grd Cal New iNOS stand RAD 09-10 Th05s															
Started: 2/2/2018 12:10															
Number:	72														
Results Table															
Site ID	Protocol	Sample ID	Sample Type	Notes	Status	FAM Std/R	FAM CI	Cy3 Std/R	Cy3 CI	TuR Std/R	TuR CI	Cy5 Std/R	Cy5 CI	Mean Peak	FWHM
C0	iNOS RADIANT SYBR 2017	7	STD		OK	81500000	12.38	0	15.89	0	0	0	0	85.47	7.5
C10	iNOS RADIANT SYBR 2017	8	STD		OK	81500000	14.94	0	18.64	0	0	0	0	86.2	6.8
C11	iNOS RADIANT SYBR 2017	5	STD		OK	81500000	17.97	0	0	0	0	0	0	86.36	5.8
C12	iNOS RADIANT SYBR 2017	4	STD		OK	81500000	22.07	0	26.97	0	0	0	0	86.37	4.8
C13	iNOS RADIANT SYBR 2017	3	STD		OK	81500000	24.67	0	28.34	0	0	0	0	86.32	3.8
C14	iNOS RADIANT SYBR 2017	2	STD		OK	815	26.04	0	31.82	0	0	0	0	86.34	2.8
A1	iNOS RADIANT SYBR 2017	355	UNKN		OK	360.438	26.22	ND	31.19	ND	0	ND	0	85.08	
A2	iNOS RADIANT SYBR 2017	UNKN		OK	682.973	26.21	ND	31.95	ND	0	ND	0	0	86.25	
A3	iNOS RADIANT SYBR 2017	UNKN		OK	824.134	26.07	ND	0	ND	0	ND	0	0	86.29	
A4	iNOS RADIANT SYBR 2017	357	UNKN		OK	1763.75	26.61	ND	31.51	ND	0	ND	0	86.18	
A5	iNOS RADIANT SYBR 2017	UNKN		OK	1638.721	26.73	ND	32.64	ND	0	ND	0	0	86.24	
A6	iNOS RADIANT SYBR 2017	UNKN		OK	1685.048	26.73	ND	31.85	ND	0	ND	0	0	86.1	
A7	iNOS RADIANT SYBR 2017	358	UNKN		OK	2530.623	26.11	ND	33.61	ND	0	ND	0	86.31	
A8	iNOS RADIANT SYBR 2017	UNKN		OK	2620.278	26.06	ND	32.18	ND	0	ND	0	0	86.32	
A9	iNOS RADIANT SYBR 2017	UNKN		OK	2707.271	26.02	ND	32.13	ND	0	ND	0	0	86.84	
A10	iNOS RADIANT SYBR 2017	359	UNKN		OK	3441.472	25.08	ND	30.15	ND	0	ND	0	86.26	
A11	iNOS RADIANT SYBR 2017	UNKN		OK	3606.612	25.01	ND	30.53	ND	0	ND	0	0	86.28	
A12	iNOS RADIANT SYBR 2017	UNKN		OK	8779.061	26.42	ND	30.42	ND	0	ND	0	0	86.17	
A13	iNOS RADIANT SYBR 2017	360	UNKN		OK	1195.244	27.15	ND	33.97	ND	0	ND	0	86.28	
A14	iNOS RADIANT SYBR 2017	UNKN		OK	1212.664	27.18	ND	32.77	ND	0	ND	0	0	86.12	
A15	iNOS RADIANT SYBR 2017	UNKN		OK	1181.64	27.25	ND	33.87	ND	0	ND	0	0	86.03	
A16	iNOS RADIANT SYBR 2017	361	UNKN		OK	2173.94	26.32	ND	33.38	ND	0	ND	0	86.19	
B1	iNOS RADIANT SYBR 2017	UNKN		OK	2186.53	26.11	ND	0	ND	0	ND	0	0	86.35	
B2	iNOS RADIANT SYBR 2017	UNKN		OK	2121.36	26.38	ND	23.8	ND	0	ND	0	0	86.31	
B3	iNOS RADIANT SYBR 2017	362	UNKN		OK	3598.51	25.92	ND	0	ND	0	ND	0	86.25	
B4	iNOS RADIANT SYBR 2017	UNKN		OK	3490.36	25.67	ND	34.68	ND	0	ND	0	0	86.21	
B5	iNOS RADIANT SYBR 2017	UNKN		OK	3740.59	25.67	ND	34.64	ND	0	ND	0	0	86.21	
B6	iNOS RADIANT SYBR 2017	363	UNKN		OK	4006.248	25.45	ND	31.59	ND	0	ND	0	86.41	
B7	iNOS RADIANT SYBR 2017	UNKN		OK	4592.905	25.17	ND	31.94	ND	0	ND	0	0	86.17	
B8	iNOS RADIANT SYBR 2017	UNKN		OK	4628.142	25.46	ND	33.83	ND	0	ND	0	0	86.19	
B9	iNOS RADIANT SYBR 2017	364	UNKN		OK	884.562	21.42	ND	32.67	ND	0	ND	0	86.17	
B10	iNOS RADIANT SYBR 2017	UNKN		OK	840.886	21.49	ND	31.77	ND	0	ND	0	0	86.30	
B11	iNOS RADIANT SYBR 2017	UNKN		OK	1013.608	27.35	ND	32.72	ND	0	ND	0	0	86.2	
B12	iNOS RADIANT SYBR 2017	365	UNKN		OK	2459.967	26.12	ND	32.88	ND	0	ND	0	86.28	
B13	iNOS RADIANT SYBR 2017	UNKN		OK	21247.16	25.14	ND	31.75	ND	0	ND	0	0	86.28	
B14	iNOS RADIANT SYBR 2017	UNKN		OK	2644.139	26.05	ND	0	ND	0	ND	0	0	86.21	
B15	iNOS RADIANT SYBR 2017	366	UNKN		OK	2051.07	26.40	ND	31.11	ND	0	ND	0	86.2	
B16	iNOS RADIANT SYBR 2017	UNKN		OK	2051.672	26.40	ND	31.77	ND	0	ND	0	0	86.14	
C1	iNOS RADIANT SYBR 2017	UNKN		OK	2183.008	26.31	ND	31.82	ND	0	ND	0	0	86.23	
C2	iNOS RADIANT SYBR 2017	367	UNKN		OK	7818.068	34.53	ND	31.75	ND	0	ND	0	86.41	
C3	iNOS RADIANT SYBR 2017	UNKN		OK	7522.289	24.68	ND	31.65	ND	0	ND	0	0	86.26	
C4	iNOS RADIANT SYBR 2017	UNKN		OK	7241.117	24.64	ND	31.69	ND	0	ND	0	0	86.42	
C5	iNOS RADIANT SYBR 2017	368	UNKN		OK	833.454	27.66	ND	31.77	ND	0	ND	0	86.23	
C6	iNOS RADIANT SYBR 2017	UNKN		OK	780.02	27.44	ND	31.52	ND	0	ND	0	0	86.29	
C7	iNOS RADIANT SYBR 2017	UNKN		OK	907.700	27.54	ND	31.56	ND	0	ND	0	0	86.3	
C8	iNOS RADIANT SYBR 2017	369	UNKN		OK	2907.309	26.92	ND	32.85	ND	0	ND	0	86.21	
C9	iNOS RADIANT SYBR 2017	UNKN		OK	2777.779	26.03	ND	31.88	ND	0	ND	0	0	86.25	
C10	iNOS RADIANT SYBR 2017	UNKN		OK	7274.842	35.01	ND	31.74	ND	0	ND	0	0	86.3	
C11	iNOS RADIANT SYBR 2017	370	UNKN		OK	5691.827	26.47	ND	0	ND	0	ND	0	86.46	
C12	iNOS RADIANT SYBR 2017	UNKN		OK	9534.487	26.66	ND	32.38	ND	0	ND	0	0	86.25	
C13	iNOS RADIANT SYBR 2017	UNKN		OK	3748.078	26.56	ND	31.57	ND	0	ND	0	0	86.16	
C14	iNOS RADIANT SYBR 2017	371	UNKN		OK	6451.56	24.43	ND	33.8	ND	0	ND	0	86.20	
C15	iNOS RADIANT SYBR 2017	UNKN		OK	8897.2	24.39	ND	24.8	ND	1	ND	0	0	86.29	
C16	iNOS RADIANT SYBR 2017	UNKN		OK	8870.22	24.38	ND	35.3	ND	2	ND	0	0	86.29	
A6	iNOS RADIANT SYBR 2017	379	UNKN		OK	1098.221	27.41	ND	31.59	ND	0	ND	0	86.11	
A8	iNOS RADIANT SYBR 2017	UNKN		OK	647.623	27.43	ND	32.83	ND	0	ND	0	0	86.01	
A6	iNOS RADIANT SYBR 2017	UNKN		OK	1111.229	27.39	ND	31.68	ND	0	ND	0	0	86.01	
A7	iNOS RADIANT SYBR 2017	380	UNKN		OK	3450.069	26.16	ND	31.50	ND	0	ND	0	86.28	
A8	iNOS RADIANT SYBR 2017	UNKN		OK	2934.18	26.23	ND	30.37	ND	0	ND	0	0	86.2	
A8	iNOS RADIANT SYBR 2017	UNKN		OK	2544.159	26.10	ND	30.53	ND	0	ND	0	0	86.26	
A10	iNOS RADIANT SYBR 2017	381	UNKN		OK	2131.035	26.35	ND	30.34	ND	0	ND	0	86.2	
A11	iNOS RADIANT SYBR 2017	UNKN		OK	2251.459	26.27	ND	30.29	ND	0	ND	0	0	86.08	
A12	iNOS RADIANT SYBR 2017	UNKN		OK	2959.85	27.43	ND	32.49	ND	0	ND	0	0	86.23	
A13	iNOS RADIANT SYBR 2017	382	UNKN		OK	7586.874	24.68	ND	33.85	ND	0	ND	0	86.15	
A14	iNOS RADIANT SYBR 2017	UNKN		OK	7252.391	24.55	ND	32.4	ND	0	ND	0	0	86.11	
A15	iNOS RADIANT SYBR 2017	UNKN		OK	7632.022	24.51	ND	31.81	ND	0	ND	0	0	86.2	
A16	iNOS RADIANT SYBR 2017	383	UNKN		OK	1044.584	27.35	ND	32.29	ND	0	ND	0	86.14	
B1	iNOS RADIANT SYBR 2017	UNKN		OK	3103.832	27.27	ND	0	ND	0	ND	0	0	86.21	
B2	iNOS RADIANT SYBR 2017	UNKN		OK	1115.621	27.25	ND	31.95	ND	0	ND	0	0	86.23	
B3	iNOS RADIANT SYBR 2017	384	UNKN		OK	1911.288	26.52	ND	0	ND	0	ND	0	86.2	
B4	iNOS RADIANT SYBR 2017	UNKN		OK	1672.852	26.53	ND	33.71	ND	0	ND	0	0	86.24	
B5	iNOS RADIANT SYBR 2017	UNKN		OK	1782.822	26.69	ND	33.58	ND	0	ND	0	0	86.32	
B6	iNOS RADIANT SYBR 2017	385	UNKN		OK	2180.221	26.95	ND	31.71	ND	0	ND	0	86.25	
B7	iNOS RADIANT SYBR 2017	UNKN		OK	2691.922	26.92	ND	32.63	ND	0	ND	0	0	86.15	
B8	iNOS RADIANT SYBR 2017	UNKN		OK	2777.119	26.98	ND	0	ND	0	ND	0	0	86.26	
B9	iNOS RADIANT SYBR 2017	386	UNKN		OK	4177.839	25.41	ND	32.58	ND	0	ND	0	86.33	
B10	iNOS RADIANT SYBR 2017	UNKN		OK	4352.782	25.30	ND	32.15	ND	0	ND	0	0	86.35	
B11	iNOS RADIANT SYBR 2017	UNKN		OK	4439.562	25.32	ND	32.63	ND	0	ND	0	0	86.07	

SAED000017(color)

54

Condition	<i>L. plantarum</i> (0.2% NaCl)	<i>L. plantarum</i> (1% NaCl)	<i>L. casei</i> (0.2% NaCl)	<i>L. casei</i> (1% NaCl)
Control	~0.15	~0.15	~0.15	~0.15
0.2% NaCl	~0.85	~0.75	~0.70	~0.65
1.0% NaCl	~0.85	~0.75	~0.70	~0.65

3/2/2018

Run PCR - MPO with samples

Accession #	Gene	Sequence	Fwd Primer	Rev Primer	Standard Length	Product / Amplicon Length	Start Position	
NM_000250	MPO Feb 2 A	CACTTGTATCCTCTGGTCTTCATTTATTGAGCACCTACT ACATGCAAGGCACTGTACTAGGCGTGAGAAGCATATAG	CACTTGTATCCTCTGGTCTCT	TCTATATGCTTCTCACGCTT	79	79	2859	
					Initial time (s) at 95 C	Melt time at 95 C	Anneal time (s) and Temp	extension time (s) and temp
					60	15	63, 60	30, 72

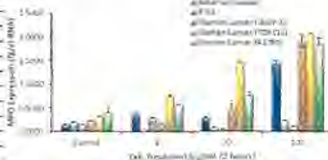
Raw data

Raw data

Run Summary (Smart Cycler 2.0d) Run Name: MPO 3d 10x v1c Std Curve: MPO test stand 60-66 new NK Started At: 3/2/2018 13:00 Number of Sites: 72											
Site ID	Protocol	Sample ID	Sample Type	Status	FAM StdRes	FAM Ct	Cy3 StdRes	Cy3 Ct	Melt Peak1	YsLog Copy	
B15	60 - 60	7 STD	OK		60900000	12.53		0	17.66	79.47	7.8
B16	60 - 60	8 STD	OK		60900000	16.84		0	20.88	79.2	6.8
C1	60 - 60	9 STD	OK		60900000	21.11		0	25.28	79.26	5.8
C2	60 - 60	4 STD	OK		609000	24.45		0	29.26	78.32	4.8
C3	60 - 60	3 STD	OK		6090	27.31		0	31	79.34	3.8
C4	60 - 60	2 STD	OK		609	31.42		0	37.85	79.25	2.8
C5	60 - 60	blank									
A1	MPO - RADIANT SYBR 2017	357 UNKN	OK		645.312	31.50	ND		31.34	79.29	
A2	MPO - RADIANT SYBR 2017	UNKN	OK		416.587	22.22	ND		31.28	79.16	
A3	MPO - RADIANT SYBR 2017	UNKN	OK		745.584	31.27	ND		0	79.24	
A4	MPO - RADIANT SYBR 2017	350 UNKN	OK		591.377	31.65	ND		31.1	79.24	
A5	MPO - RADIANT SYBR 2017	UNKN	OK		592.923	31.76	ND		31.53	79.31	
A6	MPO - RADIANT SYBR 2017	UNKN	OK		525.657	31.84	ND		30.93	79.32	
A7	MPO - RADIANT SYBR 2017	359 UNKN	OK		1796.114	29.83	ND		29.43	78.89	
A8	MPO - RADIANT SYBR 2017	UNKN	OK		2178.677	29.56	ND		29.13	79.21	
A9	MPO - RADIANT SYBR 2017	UNKN	OK		2217.772	29.49	ND		29.44	79.28	
A10	MPO - RADIANT SYBR 2017	361 UNKN	OK		29.258	36.55	ND		35.97	79.16	
A11	MPO - RADIANT SYBR 2017	UNKN	OK		36.743	36.18	ND		36.3	79.28	
A12	MPO - RADIANT SYBR 2017	UNKN	OK		36.882	36.17	ND		36.09	79.13	
A13	MPO - RADIANT SYBR 2017	362 UNKN	OK		32.552	34.36	ND		34.67	79.23	
A14	MPO - RADIANT SYBR 2017	UNKN	OK		103.125	34.50	ND		33.27	79.16	
A15	MPO - RADIANT SYBR 2017	UNKN	OK		107.822	34.42	ND		33.07	79.35	
A16	MPO - RADIANT SYBR 2017	363 UNKN	OK		342.972	32.53	ND		32.25	79.31	
B1	MPO - RADIANT SYBR 2017	UNKN	OK		375.666	32.39	ND		0	79.25	
B2	MPO - RADIANT SYBR 2017	UNKN	OK		214.758	33.30	ND		31.59	79.21	
B3	MPO - RADIANT SYBR 2017	365 UNKN	OK		301.332	32.75	ND		32.86	79.31	
B4	MPO - RADIANT SYBR 2017	UNKN	OK		267.734	33.84	ND		32.93	79.41	
B5	MPO - RADIANT SYBR 2017	UNKN	OK		293.642	32.84	ND		33.12	79.17	
B6	MPO - RADIANT SYBR 2017	366 UNKN	OK		319.869	32.65	ND		32.26	79.18	
B7	MPO - RADIANT SYBR 2017	UNKN	OK		276.118	32.89	ND		32.33	79.17	
B8	MPO - RADIANT SYBR 2017	UNKN	OK		292.458	32.85	ND		33.23	79.36	
B9	MPO - RADIANT SYBR 2017	367 UNKN	OK		948.423	30.88	ND		32.79	79.2	
B10	MPO - RADIANT SYBR 2017	UNKN	OK		912.327	30.94	ND		32.67	79.13	
B11	MPO - RADIANT SYBR 2017	UNKN	OK		924.748	30.92	ND		32.89	79.36	
B12	MPO - RADIANT SYBR 2017	369 UNKN	OK		218.768	33.27	ND		33.21	79.25	
B13	MPO - RADIANT SYBR 2017	UNKN	OK		209.117	33.34	ND		32.98	79.21	
B14	MPO - RADIANT SYBR 2017	UNKN	OK		164.818	33.73	ND		34.54	79.32	
B15	MPO - RADIANT SYBR 2017	370 UNKN	OK		214.533	33.30	ND		32.27	79.14	
B16	MPO - RADIANT SYBR 2017	UNKN	OK		195.546	33.45	ND		33.29	79.41	
C1	MPO - RADIANT SYBR 2017	UNKN	OK		212.351	33.32	ND		32.63	79.28	
C2	MPO - RADIANT SYBR 2017	371 UNKN	OK		805.293	31.14	ND		30.65	79.42	
C3	MPO - RADIANT SYBR 2017	UNKN	OK		706.822	31.35	ND		30.85	79.23	
C4	MPO - RADIANT SYBR 2017	UNKN	OK		853.694	31.05	ND		30.41	79.29	
C5	MPO - RADIANT SYBR 2017	379 UNKN	OK		689.3558	36.41	ND		31.09	79.3	
C6	MPO - RADIANT SYBR 2017	UNKN	OK		654.4539	36.67	ND		30.96	79.21	
C7	MPO - RADIANT SYBR 2017	UNKN	OK		669.0931	36.60	ND		30.87	79.12	
A1	MPO - RADIANT SYBR 2017	380 UNKN	OK		551.88	34.64	ND		28.49	79.32	
A2	MPO - RADIANT SYBR 2017	UNKN	OK		327.833	34.89	ND		27.85	79.84	
A3	MPO - RADIANT SYBR 2017	UNKN	OK		231.0105	34.67	ND		0	79.73	
A4	MPO - RADIANT SYBR 2017	381 UNKN	OK		12869.656	37.03	ND		27.51	78.77	
A5	MPO - RADIANT SYBR 2017	UNKN	OK		11507.04	37.16	ND		28.56	78.53	
A6	MPO - RADIANT SYBR 2017	UNKN	OK		10002.198	37.49	ND		28.15	79.7	
A7	MPO - RADIANT SYBR 2017	382 UNKN	OK		454.313	37.05	ND		33.23	79.04	
A8	MPO - RADIANT SYBR 2017	UNKN	OK		434.4	37.21	ND		33.1	78.96	
A9	MPO - RADIANT SYBR 2017	UNKN	OK		605.783	37.08	ND		33.12	78.78	
A10	MPO - RADIANT SYBR 2017	383 UNKN	OK		459.878	36.07	ND		33.23	78.91	
A11	MPO - RADIANT SYBR 2017	UNKN	OK		270.276	36.18	ND		33.59	79.04	
A12	MPO - RADIANT SYBR 2017	UNKN	OK		335.145	36.25	ND		33.59	79.21	
A13	MPO - RADIANT SYBR 2017	384 UNKN	OK		1206.913	38.29	ND		31.92	79.97	
A14	MPO - RADIANT SYBR 2017	UNKN	OK		1448.257	38.28	ND		30.57	78.91	
A15	MPO - RADIANT SYBR 2017	UNKN	OK		1187.594	38.16	ND		30.59	78.86	
A16	MPO - RADIANT SYBR 2017	385 UNKN	OK		1102.386	37.64	ND		31.26	79.02	
B1	MPO - RADIANT SYBR 2017	UNKN	OK		886.67	37.37	ND		0	79.08	
B2	MPO - RADIANT SYBR 2017	UNKN	OK		755.896	37.67	ND		31.5	79.12	
B3	MPO - RADIANT SYBR 2017	386 UNKN	OK		855.388	35.87	ND		33.71	78.97	
B4	MPO - RADIANT SYBR 2017	UNKN	OK		981.45	35.79	ND		32.26	79.13	
B5	MPO - RADIANT SYBR 2017	UNKN	OK		1212.295	35.72	ND		31.88	79.18	

Calculation

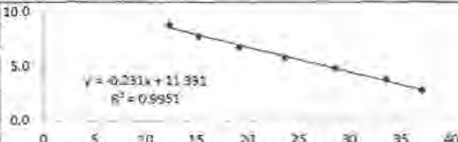
Gene of Interest		MFQ	Unit	Formula										
1 Dalton = 1.66E-24 grams		1.66E-24	g											
Mass of base pair		615	Da											
Avg. Mass base		305.35	Da											
Length of entire gene		79	bases											
Mass in Daltons		2.41E+04	Da	- number bases x avg. mass/base										
Mass in grams		4.00E-20	g	- mass in Da x mass of a Da in grams										
Mass in ug		4.00E-14	ug	- above x 10E 6										
Mass in ng		4.00E-11	ng	- above x 10E 3										
3/2/2018 18:00														
ID	Sample	Copy #	ul cDNA used	copies/ul cDNA	ug RNA used	ul cDNA used	ug RNA/ul cDNA	copies/ug RNA	Dilution Factor	copies/ul RNA x DF	ug RNA	Normalized	Average	SD
357	EL1 5 ug/ml Talc	645,312	3	215,104	0.5	20	0.025	8,605+03	10	8,605+04	3.44E+05	3.38	0.5017	0.0369
		416,587	3	138,862	0.5	20	0.025	5,555+03	10	5,555+04	2.22E+05	2.17		
		745,584	3	248,528	0.5	20	0.025	9,945+03	10	9,945+04	3.98E+05	3.88		
358	EL1 20 ug/ml Talc	591,372	3	197,126	0.5	20	0.025	7,895+03	10	7,895+04	3.18E+05	3.10	0.2926	0.0173
		592,923	3	184,307	0.5	20	0.025	7,375+03	10	7,375+04	2.95E+05	2.90		
		525,657	3	175,219	0.5	20	0.025	7,015+03	10	7,015+04	2.81E+05	2.75		
359	EL1 100 ug/ml Talc	1796,114	3	598,704	0.5	20	0.025	2,35E+04	10	2,35E+05	9.58E+05	12.03	1.4564	0.0422
		2128,677	3	709,559	0.5	20	0.025	2,84E+04	10	2,84E+05	1.14E+06	14.26		
		2217,772	3	739,257	0.5	20	0.025	2,96E+04	10	2,96E+05	1.18E+06	14.85		
363	Normal Ovarian Utricle	39,259	3	13,086	0.5	20	0.025	5,23E+02	10	5,23E+03	2.10E+01	0.21	0.1974	0.0116
		36,743	3	12,247	0.5	20	0.025	4,90E+02	10	4,90E+03	1.98E+01	0.20		
		34,932	3	11,644	0.5	20	0.025	4,66E+02	10	4,66E+03	1.88E+01	0.19		
364	5 ug/ml	10,652	3	3,550	0.5	20	0.025	1,42E+02	10	1,42E+03	5.69E+02	0.05	0.0533	0.0021
		10,123	3	3,374	0.5	20	0.025	1,35E+02	10	1,35E+03	5.40E+02	0.05		
		10,932	3	3,644	0.5	20	0.025	1,46E+02	10	1,46E+03	5.82E+02	0.06		
365	20 ug/ml	14,972	3	4,990	0.5	20	0.025	2,00E+02	10	2,00E+03	7.99E+02	0.08	0.0853	0.0062
		17,666	3	5,888	0.5	20	0.025	2,36E+02	10	2,36E+03	9.45E+02	0.09		
		14,756	3	4,918	0.5	20	0.025	1,97E+02	10	1,97E+03	7.89E+02	0.08		
366	100 ug/ml	50,332	3	16,773	0.5	20	0.025	6,71E+02	10	6,71E+03	2.68E+01	0.24	0.2336	0.0087
		46,734	3	15,578	0.5	20	0.025	6,23E+02	10	6,23E+03	2.49E+01	0.22		
		48,642	3	16,214	0.5	20	0.025	6,49E+02	10	6,49E+03	2.60E+01	0.23		
379	FT33 Utricle	31,869	3	10,623	0.5	20	0.025	4,25E+02	10	4,25E+03	1.70E+01	0.17	0.1483	0.0051
		27,116	3	9,039	0.5	20	0.025	3,62E+02	10	3,62E+03	1.45E+01	0.14		
		28,458	3	9,486	0.5	20	0.025	3,79E+02	10	3,79E+03	1.52E+01	0.15		
380	5 ug/ml Talc	94,423	3	31,473	0.5	20	0.025	1,26E+03	10	1,26E+04	5.04E+01	0.30	0.2827	0.0049
		91,327	3	30,442	0.5	20	0.025	1,22E+03	10	1,22E+04	4.87E+01	0.29		
		92,748	3	30,916	0.5	20	0.025	1,24E+03	10	1,24E+04	4.95E+01	0.29		
381	20 ug/ml Talc	21,768	3	7,256	0.5	20	0.025	2,90E+02	10	2,90E+03	1.18E+01	0.06	0.0514	0.0072
		20,117	3	6,706	0.5	20	0.025	2,68E+02	10	2,68E+03	1.07E+01	0.05		
		16,444	3	5,481	0.5	20	0.025	2,19E+02	10	2,19E+03	8.78E+02	0.04		
382	100 ug/ml Talc	21,533	3	7,177	0.5	20	0.025	2,87E+02	10	2,87E+03	1.15E+01	0.11	0.1111	0.0058
		19,562	3	6,520	0.5	20	0.025	2,61E+02	10	2,61E+03	1.04E+01	0.10		
		21,351	3	7,117	0.5	20	0.025	2,85E+02	10	2,85E+03	1.14E+01	0.11		
383	8KOV 5 ug/ml	29,258	3	9,752	0.5	20	0.025	3,90E+02	10	3,90E+03	1.56E+01	0.15	0.1745	0.0223
		36,747	3	12,247	0.5	20	0.025	4,90E+02	10	4,90E+03	1.98E+01	0.19		
		36,982	3	12,323	0.5	20	0.025	4,93E+02	10	4,93E+03	1.99E+01	0.19		
384	20 ug/ml	82,652	3	27,550	0.5	20	0.025	1,10E+03	10	1,10E+04	4.41E+01	0.40	0.3925	0.0643
		103,125	3	34,375	0.5	20	0.025	1,38E+03	10	1,38E+04	5.52E+01	0.50		
		107,922	3	35,974	0.5	20	0.025	1,44E+03	10	1,44E+04	5.76E+01	0.52		
385	100 ug/ml	342,972	3	114,324	0.5	20	0.025	4,57E+03	10	4,57E+04	1.83E+02	1.83	1.9128	0.1234
		375,666	3	125,222	0.5	20	0.025	5,01E+03	10	5,01E+04	2.01E+02	2.01		
		214,756	3	71,585	0.5	20	0.025	2,86E+03	10	2,86E+04	1.18E+02	1.15		
386	TCV112 5 ug/ml Talc	301,332	3	100,444	0.5	20	0.025	4,07E+03	10	4,07E+04	1.61E+02	0.60	0.7512	0.0444
		267,734	3	89,246	0.5	20	0.025	3,57E+03	10	3,57E+04	1.43E+02	0.71		
		283,642	3	94,547	0.5	20	0.025	3,78E+03	10	3,78E+04	1.51E+02	0.75		
386	TCV112 20 ug/ml Talc	319,869	3	106,523	0.5	20	0.025	4,26E+03	10	4,26E+04	1.71E+02	1.71	1.4967	0.0239
		276,118	3	92,039	0.5	20	0.025	3,69E+03	10	3,69E+04	1.47E+02	1.47		
		282,459	3	94,153	0.5	20	0.025	3,77E+03	10	3,77E+04	1.51E+02	1.51		
387	TCV112 100 ug/ml Talc	948,423	3	316,141	0.5	20	0.025	1,26E+04	10	1,26E+05	5.04E+02	2.12	3.0731	0.6426
		912,327	3	304,109	0.5	20	0.025	1,22E+04	10	1,22E+05	4.87E+02	2.04		
		924,748	3	308,249	0.5	20	0.025	1,23E+04	10	1,23E+05	4.94E+02	2.06		
389	A2790 5 ug/ml	218,768	3	72,923	0.5	20	0.025	2,92E+03	10	2,92E+04	1.17E+02	0.58	0.5845	0.0170
		209,117	3	69,706	0.5	20	0.025	2,78E+03	10	2,78E+04	1.12E+02	0.55		
		164,616	3	54,936	0.5	20	0.025	2,20E+03	10	2,20E+04	8.80E+01	0.43		
370	20 ug/ml	214,533	3	71,511	0.5	20	0.025	2,86E+03	10	2,86E+04	1.18E+02	0.82	0.7924	0.0327
		195,546	3	65,182	0.5	20	0.025	2,61E+03	10	2,61E+04	1.04E+02	0.75		
		212,351	3	70,783	0.5	20	0.025	2,83E+03	10	2,83E+04	1.13E+02	0.81		
211	100 ug/ml	805,291	3	268,431	0.5	20	0.025	1,07E+04	10	1,07E+05	4.30E+02	1.85	1.9639	0.0786
		706,822	3	235,607	0.5	20	0.025	9,42E+03	10	9,42E+04	3.77E+02	1.62		
		853,694	3	284,564	0.5	20	0.025	1,14E+04	10	1,14E+05	4.56E+02	1.98		
390	EL1 ut	669,355	3	223,113	0.5	20	0.025	8,92E+03	10	8,92E+04	3.57E+02	1.46	0.1480	0.0080
		664,453	3	221,483	0.5	20	0.025	8,86E+03	10	8,86E+04	3.55E+02	1.45		
		669,093	3	223,031	0.5	20	0.025	8,92E+03	10	8,92E+04	3.57E+02	1.46		
390	8KOV-3 ut	454,313	3	151,437	0.5	20	0.025	6,06E+03	10	6,06E+04	2.42E+02	0.23	0.2243	0.0071
		434,4	3	144,8	0.5	20	0.025	5,79E+03	10	5,79E+04	2.32E+02	0.22		
		605,783	3	201,927	0.5	20	0.025	8,08E+03	10	8,08E+04	3.23E+02	0.31		
398	A2790 ut	1162,386	3	387,462	0.5	20	0.025	1,55E+04	10	1,55E+05	6.20E+02	0.82	0.4304	0.0404
		886,47	3	295,556	0.5	20	0.025	1,18E+04	10	1,18E+05	4.72E+02	0.47		
		755,896	3	251,953	0.5	20	0.025	1,01E+04	10	1,01E+05	4.03E+02	0.40		
394	TCV112 ut	1305,857	3	435,286	0.5	20	0.025	1,74E+04	10	1,74E+05	6.97E+02	0.41	0.3211	0.0141
		1049,829	3	349,943	0.5	20	0.025	1,40E+04	10	1,40E+05	5.60E+02	0.33		
		996,582	3	328,860	0.5	20	0.025	1,32E+04	10	1,32E+05	5,27E+02	0.31		



3/2/2018

Run PCR - APX

Samples

Run Summary (Smart Cycler 2.0d)			
Run Name: GPX Taic			
Std Curve: GPX Standard RADIANT			
Started At: 3/2/2018 14:44			
Number of: 72			
Results Table			
Site ID	Protocol	Sample ID	Sample Type Status FAM Std/Res FAM Ct Melt Peak1
A1	GSTp1 - RADIANT SYBR 201	8	STD OK 608000000 12.29 82.73
A2	GSTp1 - RADIANT SYBR 201	7	STD OK 608000000 13.15 82.77
A3	GSTp1 - RADIANT SYBR 201	6	STD OK 608000000 16.12 82.76
A4	GSTp1 - RADIANT SYBR 201	5	STD OK 608000000 20.69 82.3
A5	GSTp1 - RADIANT SYBR 201	4	STD OK 608000000 24.74 82.72
A6	GSTp1 - RADIANT SYBR 201	3	STD OK 608000000 28.15 82.87
A7	GSTp1 - RADIANT SYBR 201	2	STD OK 608000000 31.71 82.84
B1	GSTp1 - RADIANT SYBR 201	357	UNKN OK 668201.923 20.84 82.11
B2	GSTp1 - RADIANT SYBR 2018		UNKN OK 666753.61 20.84 82.95
B3	GSTp1 - RADIANT SYBR 2018		UNKN OK 671705.856 20.83 82.07
B4	GSTp1 - RADIANT SYBR 2018	358	UNKN OK 206839.922 22.63 82.89
B5	GSTp1 - RADIANT SYBR 2018		UNKN OK 230366.035 22.46 82.87
B6	GSTp1 - RADIANT SYBR 2018		UNKN OK 210731.99 22.60 82.1
B7	GSTp1 - RADIANT SYBR 2018	359	UNKN OK 64785.937 24.40 82.1
B8	GSTp1 - RADIANT SYBR 2018		UNKN OK 65867.594 24.38 82.75
B9	GSTp1 - RADIANT SYBR 2018		UNKN OK 65675.403 24.38 82
B10	GSTp1 - RADIANT SYBR 2018	361	UNKN OK 506032.78 21.25 82
B11	GSTp1 - RADIANT SYBR 2018		UNKN OK 479704.249 21.34 82.16
B12	GSTp1 - RADIANT SYBR 2018		UNKN OK 488208.949 21.32 82.97
B13	GSTp1 - RADIANT SYBR 2018	362	UNKN OK 277671.948 22.18 82.91
B14	GSTp1 - RADIANT SYBR 2018		UNKN OK 285591.813 22.14 82.03
B15	GSTp1 - RADIANT SYBR 2018		UNKN OK 257832.145 22.29 82.9
B16	GSTp1 - RADIANT SYBR 2018	363	UNKN OK 195790.778 22.71 82.06
A1	GSTp1 - RADIANT SYBR 2018		UNKN OK 174633.209 22.89 82.13
A2	GSTp1 - RADIANT SYBR 2018		UNKN OK 193958.071 22.73 82.87
A3	GSTp1 - RADIANT SYBR 2018	366	UNKN OK 382147.473 21.69 82.17
A4	GSTp1 - RADIANT SYBR 2018		UNKN OK 382526.579 21.69 82.13
A5	GSTp1 - RADIANT SYBR 2018		UNKN OK 381507.876 21.69 82.15
A6	GSTp1 - RADIANT SYBR 2018	366	UNKN OK 165461.759 22.97 82.02
A7	GSTp1 - RADIANT SYBR 2018		UNKN OK 142225.778 23.20 82.06
A8	GSTp1 - RADIANT SYBR 2018		UNKN OK 148912.529 23.13 82.1
A9	GSTp1 - RADIANT SYBR 2018	367	UNKN OK 199402.777 22.68 82.04
A10	GSTp1 - RADIANT SYBR 2018		UNKN OK 128707.691 23.35 82.91
A11	GSTp1 - RADIANT SYBR 2018		UNKN OK 187371.231 22.76 82.29
A12	GSTp1 - RADIANT SYBR 2018	368	UNKN OK 454082.582 21.43 82.02
A13	GSTp1 - RADIANT SYBR 2018		UNKN OK 411760.96 21.58 82.2
A14	GSTp1 - RADIANT SYBR 2018		UNKN OK 439293.754 21.48 82.14
A15	GSTp1 - RADIANT SYBR 2018	370	UNKN OK 185507.125 22.80 82.17
A16	GSTp1 - RADIANT SYBR 2018		UNKN OK 199908.926 22.68 82.1
C1	GSTp1 - RADIANT SYBR 2018		UNKN OK 150814.91 23.11 82.19
C2	GSTp1 - RADIANT SYBR 2018	371	UNKN OK 90033.388 23.90 82.12
C3	GSTp1 - RADIANT SYBR 2018		UNKN OK 92592.039 23.86 82.19
C4	GSTp1 - RADIANT SYBR 2018		UNKN OK 77597.643 24.13 82.01
C5	GSTp1 - RADIANT SYBR 2018	379	UNKN OK 812750.693 22.97 82.21
C6	GSTp1 - RADIANT SYBR 2018		UNKN OK 803430.814 23.20 82.21
C7	GSTp1 - RADIANT SYBR 2018		UNKN OK 832511.564 23.13 82.79
B1	GSTp1 - RADIANT SYBR 2018	380	UNKN OK 600265.246 22.06 82.09
B2	GSTp1 - RADIANT SYBR 2018		UNKN OK 562024.568 22.48 82.88
B3	GSTp1 - RADIANT SYBR 2018		UNKN OK 1175903.995 22.13 82.04
B4	GSTp1 - RADIANT SYBR 2018	381	UNKN OK 718719.203 22.73 82.99
B5	GSTp1 - RADIANT SYBR 2018		UNKN OK 680134.125 22.59 82.91
B6	GSTp1 - RADIANT SYBR 2018		UNKN OK 572473.147 22.76 82.96
B7	GSTp1 - RADIANT SYBR 2018	382	UNKN OK 105507.125 23.66 82.98
B8	GSTp1 - RADIANT SYBR 2018		UNKN OK 109908.926 23.80 82.55
B9	GSTp1 - RADIANT SYBR 2018		UNKN OK 90980.998 23.89 82.94
B10	GSTp1 - RADIANT SYBR 2018	383	UNKN OK 1051419.196 21.25 82.98
B11	GSTp1 - RADIANT SYBR 2018		UNKN OK 836587.722 21.34 82.03
B12	GSTp1 - RADIANT SYBR 2018		UNKN OK 945596.546 21.32 82.02
B13	GSTp1 - RADIANT SYBR 2018	384	UNKN OK 800078.097 21.71 82.94
B14	GSTp1 - RADIANT SYBR 2018		UNKN OK 851681.834 21.68 82.9
B15	GSTp1 - RADIANT SYBR 2018		UNKN OK 706709.075 21.79 82.97
B16	GSTp1 - RADIANT SYBR 2018	385	UNKN OK 503377.481 22.97 82.17
A1	GSTp1 - RADIANT SYBR 2018		UNKN OK 291290.52 22.89 82.15
A2	GSTp1 - RADIANT SYBR 2018		UNKN OK 221345.011 22.73 82.95
A3	GSTp1 - RADIANT SYBR 2018	386	UNKN OK 333584.129 23.31 82.06
A4	GSTp1 - RADIANT SYBR 2018		UNKN OK 344466.658 23.31 82.19
A5	GSTp1 - RADIANT SYBR 2018		UNKN OK 348884.247 23.32 82.14
A7	GSTp1 - RADIANT SYBR 202	264	UNKN OK 238866.626 22.41 82.2
A8	GSTp1 - RADIANT SYBR 2021		UNKN OK 188277.851 22.76 82.09
A9	GSTp1 - RADIANT SYBR 2022		UNKN OK 246310.592 22.36 83.18
A10	GSTp1 - RADIANT SYBR 202	360	UNKN OK 981714.39 20.25 82.16
A11	GSTp1 - RADIANT SYBR 2024		UNKN OK 970207.832 20.26 82.09
A12	GSTp1 - RADIANT SYBR 2025		UNKN OK 1098811.105 20.07 83.34
A13	GSTp1 - RADIANT SYBR 202	356	UNKN OK 812750.693 20.54 82.09
A14	GSTp1 - RADIANT SYBR 2027		UNKN OK 803430.814 20.55 82.52
A15	GSTp1 - RADIANT SYBR 2028		UNKN OK 832511.564 20.50 82.11
A16	GSTp1 - RADIANT SYBR 202	369	UNKN OK 503377.481 21.27 82.91
A17	GSTp1 - RADIANT SYBR 2030		UNKN OK 291290.52 22.11 82.12
A18	GSTp1 - RADIANT SYBR 2031		UNKN OK 221345.011 22.53 83.12

SAED000021(color)

48

Accession #	Gene	Sequence	Fwd Primer	Rev Primer	Standard Length	Product / Amplicon Length	Start Position
NP_000581	GPX	GGACTACACCCAGATGAACGAGCTGCAGCGGCGCCT CGGACCCCGGGGCGCTGGTGGTCTCGGCTCCCGTG CAACCACTTTGGGCATCAGGAGAA	GGACTACACCCAGATGAAC	TTCTCTGATGCCCAAC	100	100	242
							Initial time (s) at 95 C
							Melt time at 95 C
							Anneal time (s) and Temp
							extension time (s) and temp
							60 15 10, 60 30, 72

Primer information & Calculation

Gene of Interest				Gene	Formula										
1 Dalton = 1.66E-24 grams				1.66E-24	g										
Mass of base pair				615	Da										
Avg. Mass/base				303.25	Da										
Length of entire gene				1001	bases										
Mass in Daltons				3.05E+04	Da	• number bases x avg. mass/base									
Mass in grams				5.07E-20	g	• mass in Da x mass of a Da in grams									
Mass in ug				5.07E-14	ug	• above / 10E-6									
Mass in ng				5.07E-11	ng	• above x 10E3									
ID	Sample	Copy #	ul cDNA used	copies/ul cDNA	ug RNA used	ul cDNA made	ug RNA/ul cDNA	copies/ug RNA	Dilution Factor	copies/ul cDNA x Df	ng/ul RNA	Normalized	Average	SD	
G5T01 - RADIANT SYBR 2018															
157	EL1 5 ug/ml Tac	468201.923	3	159067.208	0.5	20	0.025	6.24E+06	10	6.24E+07	3.10E+00	3.03	3.42	0.34	
		156753.61	3	122251.203	0.5	20	0.025	4.89E+06	10	4.89E+07	2.48E+00	2.41			
		571705.856	3	190569.619	0.5	20	0.025	7.62E+06	10	7.62E+07	3.80E+00	3.76			
158	EL1 20 ug/ml Tac	326839.922	3	109946.681	0.5	20	0.025	4.36E+06	10	4.36E+07	2.21E+00	2.17	2.47	0.05	
		370366.035	3	123456.345	0.5	20	0.025	4.94E+06	10	4.94E+07	2.50E+00	2.46			
		360731.99	3	120243.997	0.5	20	0.025	4.81E+06	10	4.81E+07	2.44E+00	2.39			
159	EL1 150 ug/ml Tac	114785.937	3	30291.979	0.5	20	0.025	1.53E+06	10	1.53E+07	7.76E-01	0.87	0.81	0.05	
		125867.594	3	41955.8647	0.5	20	0.025	1.68E+06	10	1.68E+07	8.56E-01	1.07			
		195675.403	3	85255.1343	0.5	20	0.025	2.61E+06	10	2.61E+07	1.32E+00	1.66			
160	Normal: Cytosine test T2 to	508032.78	3	160344.26	0.5	20	0.025	6.77E+06	10	6.77E+07	3.40E+00	3.43	3.27	0.04	
		479704.249	3	159901.416	0.5	20	0.025	6.40E+06	10	6.40E+07	3.24E+00	3.24			
		488208.949	3	162736.316	0.5	20	0.025	6.51E+06	10	6.51E+07	3.30E+00	3.30			
161	5 ug/ml	177671.948	3	125590.849	0.5	20	0.025	5.04E+06	10	5.04E+07	2.56E+00	2.41	2.58	0.04	
		385591.813	3	120530.604	0.5	20	0.025	5.14E+06	10	5.14E+07	2.61E+00	2.68			
		357832.145	3	119277.302	0.5	20	0.025	4.77E+06	10	4.77E+07	2.42E+00	2.55			
162	20 ug/ml	165790.778	3	85263.5927	0.5	20	0.025	2.21E+06	10	2.21E+07	1.12E+00	1.07	1.15	0.04	
		174633.209	3	58211.0697	0.5	20	0.025	2.33E+06	10	2.33E+07	1.18E+00	1.12			
		193958.071	3	64662.0903	0.5	20	0.025	2.59E+06	10	2.59E+07	1.31E+00	1.25			
163	100 ug/ml	132147.473	3	44049.1577	0.5	20	0.025	1.75E+06	10	1.75E+07	8.90E-01	0.80	0.69	0.00	
		132528.579	3	44176.193	0.5	20	0.025	1.77E+06	10	1.77E+07	8.96E-01	0.81			
		131507.876	3	43835.9587	0.5	20	0.025	1.76E+06	10	1.76E+07	8.86E-01	0.80			
164	RT33 test 72 hr	465461.753	3	155153.92	0.5	20	0.025	6.21E+06	10	6.21E+07	3.14E+00	3.14	3.01	0.03	
		442225.778	3	147408.593	0.5	20	0.025	5.90E+06	10	5.90E+07	2.99E+00	2.99			
		448812.529	3	149604.178	0.5	20	0.025	5.98E+06	10	5.98E+07	3.02E+00	3.03			
165	5 ug/ml Tac	299402.777	3	99800.9257	0.5	20	0.025	3.99E+06	10	3.99E+07	2.02E+00	1.20	1.68	0.06	
		228707.691	3	76235.897	0.5	20	0.025	3.05E+06	10	3.05E+07	1.55E+00	0.91			
		257371.231	3	95790.4103	0.5	20	0.025	3.93E+06	10	3.93E+07	1.94E+00	1.15			
166	20 ug/ml Tac	194082.582	3	84684.194	0.5	20	0.025	2.59E+06	10	2.59E+07	1.31E+00	0.95	1.30	0.02	
		211760.96	3	70586.9867	0.5	20	0.025	2.82E+06	10	2.82E+07	1.42E+00	0.71			
		139283.754	3	63094.5847	0.5	20	0.025	2.52E+06	10	2.52E+07	1.26E+00	0.63			
167	100 ug/ml Tac	105507.125	3	35169.0417	0.5	20	0.025	1.41E+06	10	1.41E+07	7.42E-01	0.71	0.71	0.02	
		109908.926	3	36635.3087	0.5	20	0.025	1.47E+06	10	1.47E+07	7.48E-01	0.74			
		90980.998	3	30326.9993	0.5	20	0.025	1.21E+06	11	1.33E+07	6.76E-01	0.68			
168	3000V 5 ug/ml	508032.78	3	160344.26	0.5	20	0.025	6.77E+06	10	6.77E+07	3.43E+00	1.44	3.27	0.04	
		479704.249	3	159901.416	0.5	20	0.025	6.40E+06	10	6.40E+07	3.24E+00	1.36			
		488208.949	3	162736.316	0.5	20	0.025	6.51E+06	10	6.51E+07	3.30E+00	1.38			
169	20 ug/ml	177671.948	3	92557.316	0.5	20	0.025	3.70E+06	10	3.70E+07	1.88E+00	1.88	1.90	0.04	
		285591.813	3	95197.271	0.5	20	0.025	3.81E+06	10	3.81E+07	1.93E+00	1.93			
		257832.145	3	85944.0483	0.5	20	0.025	3.44E+06	10	3.44E+07	1.74E+00	1.74			
170	100 ug/ml	195790.778	3	65263.5927	0.5	20	0.025	2.61E+06	10	2.61E+07	1.32E+00	0.85	1.23	0.10	
		174633.209	3	58211.0697	0.5	20	0.025	2.33E+06	10	2.33E+07	1.18E+00	0.58			
		193958.071	3	64662.0903	0.5	20	0.025	2.59E+06	10	2.59E+07	1.31E+00	0.65			
171	TOV112 5 ug/ml Tac	382147.473	3	127382.491	0.5	20	0.025	5.10E+06	10	5.10E+07	2.58E+00	1.65	2.58	0.00	
		382528.579	3	127508.529	0.5	20	0.025	5.10E+06	10	5.10E+07	2.58E+00	1.65			
		381507.876	3	127169.292	0.5	20	0.025	5.09E+06	10	5.09E+07	2.58E+00	1.64			
172	TOV112 20 ug/ml Tac	165461.753	3	55153.9197	0.5	20	0.025	2.21E+06	10	2.21E+07	1.12E+00	0.48	0.90	0.03	
		142225.778	3	47408.5927	0.5	20	0.025	1.90E+06	10	1.90E+07	9.91E-01	0.41			
		148812.529	3	49804.1763	0.5	20	0.025	1.98E+06	10	1.98E+07	1.01E+00	0.43			
173	TOV112 100 ug/ml Tac	199402.777	3	66487.5923	0.5	20	0.025	2.66E+06	10	2.66E+07	1.35E+00	1.07	1.31	0.06	
		128707.691	3	42902.5637	0.5	20	0.025	1.72E+06	10	1.72E+07	8.70E-01	0.69			
		187371.231	3	62457.677	0.5	20	0.025	2.50E+06	10	2.50E+07	1.27E+00	1.01			
174	A2780 5 ug/ml	454082.582	3	151360.861	0.5	20	0.025	6.05E+06	10	6.05E+07	3.07E+00	2.85	3.02	0.07	
		411760.96	3	137253.653	0.5	20	0.025	5.49E+06	10	5.49E+07	2.76E+00	2.68			
		439283.754	3	146427.918	0.5	20	0.025	5.86E+06	10	5.86E+07	2.97E+00	2.85			
175	20 ug/ml	165507.125	3	61835.7083	0.5	20	0.025	2.47E+06	10	2.47E+07	1.25E+00	1.20	1.30	0.07	
		199908.926	3	66636.3087	0.5	20	0.025	2.67E+06	10	2.67E+07	1.35E+00	1.30			
		150814.91	3	50271.6367	0.5	20	0.025	2.01E+06	10	2.01E+07	1.02E+00	0.98			
176	160 ug/ml	90033.368	3	30011.1293	0.5	20	0.025	1.20E+06	10	1.20E+07	6.08E-01	0.22	0.82	0.01	
		92582.039	3	30860.8797	0.5	20	0.025	1.23E+06	10	1.23E+07	6.20E-01	0.23			
		77597.643	3	25965.881	0.5	20	0.025	1.03E+06	10	1.03E+07	5.20E-01	0.19			
177	EL1 test	812750.693	3	270916.898	0.5	20	0.025	1.08E+06	10	1.08E+08	5.46E+00	5.35	5.48	0.04	
		804340.814	3	267810.271	0.5	20	0.025	1.07E+07	10	1.07E+08	5.43E+00	5.29			
		832511.564	3	277593.885	0.5	20	0.025	1.11E+07	10	1.11E+08	5.62E+00	5.48			
178	SHYV-3 test	331714.39	3	127238.11	0.5	20	0.025	5.09E+06	20	1.02E+08	5.19E+00	4.87	3.08	0.11	
		370207.832	3	123402.611	0.5	20	0.025	4.94E+06	20	9.87E+07	5.08E+00	4.71			
		398811.105	3	132937.035	0.5	20	0.025	5.32E+06	20	1.06E+08	5.36E+00	5.08			
179	A2780 test	503377.481	3	187792.494	0.5	20	0.025	6.71E+06	20	1.34E+08	6.82E+00	6.80	3.46	0.47	
		291290.52	3	97096.94	0.5	20	0.025	3.82E+06	20	7.77E+07	3.94E+00	3.94			
		221345.011	3	73781.6703	0.5	20	0.025	2.95E+06	20	5.90E+07	3.00E+00	2.99			
180	TOV112 test	238896.626	3	79632.2087	0.5	20	0.025	3.19E+06	20	6.37E+07	3.27E+00	1.91	3.28	0.07	
		159277.851	3	63092.617	0.5	20	0.025	2.52E+06	20	5.05E+07	2.56E+00	1.51			
		246310.563	3	82101.5307	0.5	20	0.025	3.28E+06	20	6.52E+07	3.30E+00	1.97			

3/2/2018

Run PCR - SOD3 with Samples 356 ~ 386

Accession #	Gene	Sequence	Fwd Primer	Rev Primer	Standard Length	Product / Amplicon Length
NM_000636	SOD3	GCGGTAGCACCAGCACTAGCAGCATGTTGAGCCGGG CAGTGTGCGGCACAGCAGGAGCTGGCTCCGGTTT TGGGGTATCTGGGCTCC	GCGGTAGCACCAGCACTA	GGAGCCAGATACCCCAA	85	85

Primer information

Start Position	Initial time (s) at 95 °C	Melt time (s) at 95 °C	Anneal time (s) and Temp	extension time (s) and temp
132	60	15	10, 60	30, 72

Run Summary (Smart Cycler 2.0d)										
Run Name:		SOD 3ul 10x taic								
Std Curve:		SOD test stand 60-60 hwi NC								
Started At:		3/2/2018 18:00								
Number of Sites:		72								
<div><div>Log Copy</div><div><div>10.0</div><div>0.0</div></div><div><div>0</div><div>5</div><div>10</div><div>15</div><div>20</div><div>25</div><div>30</div></div><div><div>$SQ = -0.2754x + 10.128$</div><div>$R^2 = 0.9988$</div></div></div>										
Results Table										
Site ID	Protocol	Sample ID	Sample Type	Status	FAM StdRes	FAM Ct	Cy2 StdRes	Cy2 Ct	Melt Peak1	log copies
B15	60 - 60	8 STD	OK	OK	610000000	0	0	0		26.47
B16	60 - 60	7 STD	OK	OK	670000000	0	0	0		26.2
C1	60 - 60	8 STD	OK	OK	6069999.5	12.75	0	16.88		26.36
C2	60 - 60	5 STD	OK	OK	610000	16.52	0	20.46		26.37
C3	60 - 60	4 STD	OK	OK	610000	20.15	0	23.88		26.32
C4	60 - 60	3 STD	OK	OK	6100	24.00	0	27.62		26.34
C5	60 - 60	2 STD	OK	OK	610	27.11	0	30.8		26.08
A1	SOD - RADIANT SYBR 2017	356 UNKN	OK	OK	7893 558	23.58	0	31.24		26.58
A2	SOD - RADIANT SYBR 2018	UNKN	OK	OK	7644 538	23.19	0	31.24		26.58
A3	SOD - RADIANT SYBR 2019	UNKN	OK	OK	7680 531	23.25	0	31.24		26.58
A4	SOD - RADIANT SYBR 2020	357 UNKN	OK	OK	6845 212	21.61	ND	31.24		26.25
A5	SOD - RADIANT SYBR 2017	UNKN	OK	OK	8416 587	23.67	ND	31.23		26.29
A6	SOD - RADIANT SYBR 2017	UNKN	OK	OK	6746 534	23.59	ND	0		26.16
A7	SOD - RADIANT SYBR 2017	358 UNKN	OK	OK	2691 377	25.10	ND	31.1		26.24
A8	SOD - RADIANT SYBR 2017	UNKN	OK	OK	2552 923	25.12	ND	31.53		26.1
A9	SOD - RADIANT SYBR 2017	UNKN	OK	OK	2525 657	25.14	ND	30.58		26.51
A10	SOD - RADIANT SYBR 2017	359 UNKN	OK	OK	796 114	26.36	ND	29.43		26.32
A11	SOD - RADIANT SYBR 2017	UNKN	OK	OK	728 671	27.10	ND	29.13		26.64
A12	SOD - RADIANT SYBR 2017	UNKN	OK	OK	717 772	27.32	ND	29.44		26.26
A13	SOD - RADIANT SYBR 2018	360 UNKN	OK	OK	1454 313	26.81	ND	30.44		26.26
A14	SOD - RADIANT SYBR 2019	UNKN	OK	OK	1434 403	26.81	ND	31.44		26.26
A15	SOD - RADIANT SYBR 2020	UNKN	OK	OK	1605 783	25.49	ND	32.44		26.25
A16	SOD - RADIANT SYBR 2017	361 UNKN	OK	OK	1239 258	26.28	ND	35.97		26.28
A17	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1316 745	26.17	ND	36.3		26.17
A18	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1368 882	26.11	ND	36.09		26.28
A19	SOD - RADIANT SYBR 2017	362 UNKN	OK	OK	826 5135	26.90	ND	34.67		26.13
A20	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1008 125	26.54	ND	33.27		26.03
A21	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1071 510	26.49	ND	33.07		26.15
A22	SOD - RADIANT SYBR 2017	363 UNKN	OK	OK	342 972	26.29	ND	32.25		26.35
A23	SOD - RADIANT SYBR 2017	UNKN	OK	OK	375 696	28.15	ND	0		26.31
A24	SOD - RADIANT SYBR 2017	UNKN	OK	OK	214 756	29.03	ND	31.59		26.25
A25	SOD - RADIANT SYBR 2018	364 UNKN	OK	OK	305 857	29.18	ND	32.59		26.27
A26	SOD - RADIANT SYBR 2019	UNKN	OK	OK	2548 829	28.11	ND	33.59		26.25
A27	SOD - RADIANT SYBR 2020	UNKN	OK	OK	2696 582	24.88	ND	34.59		26.25
A28	SOD - RADIANT SYBR 2017	365 UNKN	OK	OK	1801 332	25.47	ND	33.86		26.21
A29	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1967 734	25.53	ND	32.93		26.31
A30	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1883 642	25.52	ND	33.12		26.41
A31	SOD - RADIANT SYBR 2017	366 UNKN	OK	OK	911 869	26.71	ND	32.26		26.17
A32	SOD - RADIANT SYBR 2017	UNKN	OK	OK	727 118	27.10	ND	32.33		26.19
A33	SOD - RADIANT SYBR 2017	UNKN	OK	OK	828 458	26.90	ND	33.23		26.17
A34	SOD - RADIANT SYBR 2017	367 UNKN	OK	OK	348 433	28.16	ND	32.79		26.36
A35	SOD - RADIANT SYBR 2017	UNKN	OK	OK	312 327	28.44	ND	32.57		26.21
A36	SOD - RADIANT SYBR 2018	UNKN	OK	OK	324 745	28.17	ND	32.89		26.28
A37	SOD - RADIANT SYBR 2019	368 UNKN	OK	OK	324 745	28.38	ND	33.89		26.38
A38	SOD - RADIANT SYBR 2020	UNKN	OK	OK	324 745	28.38	ND	34.89		26.33
A39	SOD - RADIANT SYBR 2017	369 UNKN	OK	OK	324 745	28.38	ND	35.89		26.38
A40	SOD - RADIANT SYBR 2017	UNKN	OK	OK	2218 769	25.84	ND	33.21		26.26
A41	SOD - RADIANT SYBR 2017	UNKN	OK	OK	2209 117	25.35	ND	32.68		26.21
A42	SOD - RADIANT SYBR 2017	UNKN	OK	OK	2386 2943	25.28	ND	34.54		26.2
A43	SOD - RADIANT SYBR 2017	370 UNKN	OK	OK	1014 533	25.68	ND	32.27		26.14
A44	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1095 239	26.46	ND	33.29		26.33
A45	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1152 351	26.49	ND	32.83		26.41
A46	SOD - RADIANT SYBR 2017	371 UNKN	OK	OK	805 299	26.94	ND	30.66		26.28
A47	SOD - RADIANT SYBR 2017	UNKN	OK	OK	708 822	27.15	ND	30.85		26.42
A48	SOD - RADIANT SYBR 2017	UNKN	OK	OK	853 694	26.85	ND	30.41		26.23
A49	SOD - RADIANT SYBR 2017	372 UNKN	OK	OK	7893 558	25.09	ND	31.09		26.29
A50	SOD - RADIANT SYBR 2017	UNKN	OK	OK	7644 539	24.94	ND	30.96		26.3
A51	SOD - RADIANT SYBR 2017	UNKN	OK	OK	7680 531	24.91	ND	30.67		26.21
A52	SOD - RADIANT SYBR 2017	380 UNKN	OK	OK	7155 188	25.76	ND	28.49		26.53
A53	SOD - RADIANT SYBR 2017	UNKN	OK	OK	7275 83	25.62	ND	27.65		26.23
A54	SOD - RADIANT SYBR 2017	UNKN	OK	OK	7101 685	25.54	ND	0		26.45
A55	SOD - RADIANT SYBR 2017	381 UNKN	OK	OK	7360 656	24.81	ND	27.51		26.28
A56	SOD - RADIANT SYBR 2017	UNKN	OK	OK	11507 94	27.14	ND	29.56		26.15
A57	SOD - RADIANT SYBR 2017	UNKN	OK	OK	10002 108	26.09	ND	28.15		26.33
A58	SOD - RADIANT SYBR 2017	382 UNKN	OK	OK	454 313	26.33	ND	33.23		26.2
A59	SOD - RADIANT SYBR 2017	UNKN	OK	OK	434 4	28.94	ND	33.1		26.32
A60	SOD - RADIANT SYBR 2017	UNKN	OK	OK	805 783	28.23	ND	33.12		26.65
A61	SOD - RADIANT SYBR 2017	383 UNKN	OK	OK	458 976	25.91	ND	33.22		26.29
A62	SOD - RADIANT SYBR 2017	UNKN	OK	OK	270 278	26.08	ND	33.89		26.34
A63	SOD - RADIANT SYBR 2017	UNKN	OK	OK	335 165	25.81	ND	33.59		26.43
A64	SOD - RADIANT SYBR 2017	384 UNKN	OK	OK	1508 613	26.28	ND	31.52		26.51
A65	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1446 257	26.18	ND	30.57		26.2
A66	SOD - RADIANT SYBR 2017	UNKN	OK	OK	1137 584	25.11	ND	30.59		26.19
A67	SOD - RADIANT SYBR 2017	385 UNKN	OK	OK	3162 386	26.72	ND	31.26		26.55
A68	SOD - RADIANT SYBR 2017	UNKN	OK	OK	3886 67	26.59	ND	0		26.25
A69	SOD - RADIANT SYBR 2017	UNKN	OK	OK	2725 836	26.58	ND	31.5		26.22
A70	SOD - RADIANT SYBR 2017	386 UNKN	OK	OK	3858 386	26.08	ND	33.71		26.34
A71	SOD - RADIANT SYBR 2017	UNKN	OK	OK	2981 45	26.41	ND	32.26		26.19
A72	SOD - RADIANT SYBR 2017	UNKN	OK	OK	3212 295	27.99	ND	31.88		26.47

SAED000024(color)

1/7/2018

protein extraction

Samples 356 ~ 386

ELISA

— Cells were seeded on 1-3-18 at a density of 1.2×10^6 cells per 150mm dish

— treat with talc ($10 \text{ mg/ml} = 10^4 \mu\text{g/ml}$) \leftarrow 1-4-18
 100mg talc + 10ml DMSO \rightarrow mix

Johnson & Johnson, #30027477, Lot #13717RA1

$$(x_1) \cdot (10^4 \mu\text{g/ml}) = (5 \text{ ml}) \cdot (5 \mu\text{g/ml}) \rightarrow x_1 = 2.5 \text{ mL}$$

$$(x_2) \cdot (10^4 \mu\text{g/ml}) = (5 \text{ ml}) \cdot (20 \mu\text{g/ml}) \rightarrow x_2 = 10 \text{ mL}$$

$$(x_3) \cdot (10^4 \mu\text{g/ml}) = (5 \text{ ml}) \cdot (100 \mu\text{g/ml}) \rightarrow x_3 = 50 \text{ mL}$$

— after 72 hours treatment, collect cells and medium for ELISA

- Collect media and place in labeled 15ml tube for freezing
- Then add 10mL PBS
- Using cell scraper, scrape the bottom of the dish and rotate
- Remove the PBS and cell mixture and place into 15mL labeled tubes
- Centrifuge 1800g, 5min, 4°C .
- Suck out PBS. Cells will be collected at the bottom.
- place all tubes in -80°C freezer.

BioVison #106-100-1 Lot# 21151061

— Protein extraction

- 10x lysis buffer diluted 1:10 with dd ultrapure H_2O
- 1 tablet protease inhibitor added (Roche Diagnostics #11836153001)

or 200 ~ 300 μL
 • Add 400 μL 1x lysis buffer to each tube ($\sim 1 \times 10^7$ cells)

— incubated 30 min

— Centrifuge 13000 rpm, 10min, 4°C

— transfer supernatant to new 1.5ml tube = Protein (-80°C)

SAED000025(color)

Sample ID		
356	EL1 Unt	
357	EL1 5 ug/ml Talc	
358	EL1 20 ug/ml Talc	
359	EL1 100 ug/ml Talc	
360	SKOV-3 unt	
361	SKOV-3 5ug/ml	
362	SKOV-3 20ug/ml	
363	SKOV-3 100ug/ml	
364	TOV112 Unt	
365	TOV112 5 ug/ml Talc	
366	TOV112 20 ug/ml Talc	
367	TOV112 100 ug/ml Talc	
368	A2780 Unt	
369	A2780 5 ug/ml	
370	A2780 20 ug/ml	
371	A2780 100 ug/ml	
379	FT33 unt	
380	FT33 5ug/ml	
381	FT33 20 ug/ml	
382	FT33 100 ug/ml	
383	NOE unt	
384	NOE 5 ug/ml Talc	
385	NOE 20 ug/ml Talc	
386	NOE 100 ug/ml Talc	

1/8/2018

BCA protein detection Assay

(Pierce cat # 23225)

- Samples ID see pg 54

$$\begin{array}{c} \bullet (24 \times 3 + 3 \text{ extra} + 3 \text{ blank}) = 78 \\ \uparrow \qquad \qquad \qquad \uparrow \\ \text{samples} \qquad \qquad \text{wells} \end{array}$$

$$\bullet 200 \mu\text{L per Well} = 200 \mu\text{L} \times 78 = 15600 \mu\text{L}$$

$$\bullet 1 \mu\text{L Reagent B per } 50 \mu\text{L Reagent A}$$

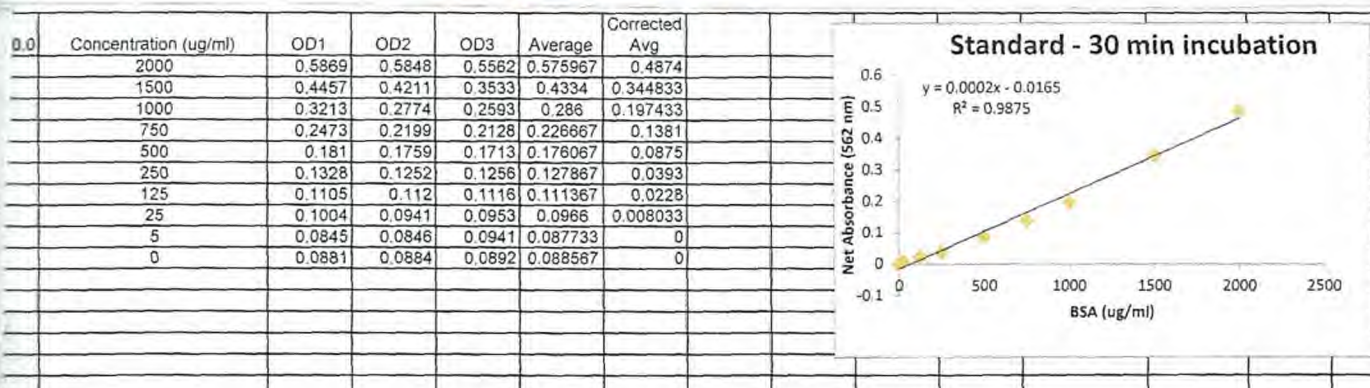
$$\frac{15600}{50} = 312 \mu\text{L}$$

$$\bullet 15600 \mu\text{L Reagent A} + 312 \mu\text{L Reagent B}$$

- Assay

- Add 10 μL Sample to 3 wells
- Add 10 μL of blank to 3 wells (whatever you lysed your cells with)
- Add 200 μL of mix to each well
- Mix, incubate at 37°C 30 minutes
- * let plate to reach Room Temp
- Read at 562 nm with spectrophotometer

- Stand Curve



Compare results, with blank subtracted. to the standard curve

SAED000027(color)

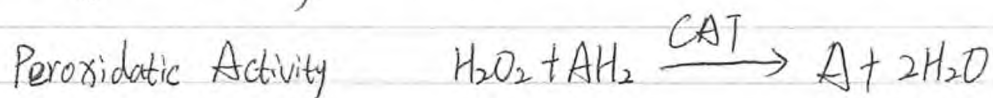
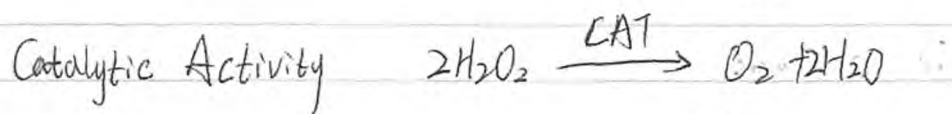
Compare results, with Blanks subtracted,
To the standard curve which has been previously determined

30 minute incubation										
ID	OD1	OD2	OD3	- blank 1	- blank 2	-blank 3	ug/ml 1	ug/ml 2	ug/ml 3	Average (mg/ml)
TOV-112-C	0.2599	0.2418	0.223	0.1713	0.1532	0.1344	939.1667	848.6667	754.6667	0.8475
TOV112-5 ug	0.3313	0.3057	0.2243	0.2427	0.2171	0.1357	1296.167	1168.167	781.1667	1.232167
TOV112- 20ug	0.1986	0.1784	0.1741	0.11	0.0898	0.0855	632.6667	531.6667	510.1667	0.520917
TOV112-100 ug	0.4219	0.3751	0.3853	0.3333	0.2865	0.2967	1749.167	1515.167	1566.167	1.540667
SKOV-3-C	0.5228	0.5485	0.4355	0.4342	0.4599	0.3469	2253.667	2382.167	1817.167	2.317917
SKOV-3-5 ug	0.3486	0.2963	0.2995	0.26	0.2077	0.2109	1382.667	1121.167	1137.167	1.129167
SKOV-3-20 ug	0.5041	0.5503	0.4834	0.4155	0.4617	0.3948	2160.167	2391.167	2056.667	2.202667
SKOV-3-100 ug	0.5336	0.5384	0.511	0.445	0.4498	0.4224	2307.667	2331.667	2194.667	2.278
A2780-C	0.5125	0.5118	0.5274	0.4239	0.4232	0.4388	2202.167	2198.667	2276.667	2.200417
A2780-5 ug	0.5112	0.5135	0.5888	0.4226	0.4249	0.5002	2195.667	2207.167	2583.667	2.201417
A2780-20 ug	0.5432	0.5026	0.517	0.4546	0.414	0.4284	2355.667	2152.667	2224.667	2.188667
A2780-100 ug	0.5229	0.4448	0.377	0.4343	0.3562	0.2884	2254.167	1863.667	1524.667	1.880833
Normal ovarian-C	0.3136	0.2745	0.2506	0.225	0.1859	0.162	1207.667	1012.167	892.6667	1.0375
Normal Ovarian-Talc 5 ug	0.4511	0.4449	0.4128	0.3625	0.3563	0.3242	1895.167	1864.167	1703.667	1.821
Normal ovarian- Talc 20 ug	0.553	0.5402	0.5244	0.4644	0.4516	0.4358	2404.667	2340.667	2261.667	2.335667
Normal Ovarian-100 ug	0.4285	0.4308	0.4289	0.3399	0.3422	0.3403	1782.167	1793.667	1784.167	1.786667
Fallopian-C	0.3884	0.373	0.373	0.2998	0.2844	0.2844	1581.667	1504.667	1504.667	1.530333
Fallopian-5 ug	0.4075	0.4286	0.4376	0.3189	0.34	0.349	1677.167	1782.667	1827.667	1.7625
Fallopian-20ug	0.6752	0.67	0.6842	0.5866	0.5814	0.5956	3015.667	2989.667	3080.667	3.022
Fallopian-100 ug	0.2599	0.2418	0.223	0.1713	0.1532	0.1344	939.1667	848.6667	754.6667	0.8475
EL-1-C	0.5268	0.4749	0.4474	0.4382	0.3863	0.3588	2273.667	2014.167	1876.667	2.054833
EL-1-5 ug	0.269	0.2655	0.2811	0.1804	0.1769	0.1925	984.6667	967.1667	1045.167	0.999
EL-1-20 ug	0.5264	0.5212	0.5391	0.4378	0.4326	0.4505	2271.667	2245.667	2335.167	2.284167
EL-1-100 ug	0.5438	0.5555	0.5387	0.4552	0.4669	0.4501	2358.667	2417.167	2333.167	2.369667

1/11/2018

Catalase ELISA

Cayman chem. Cat # 707002



- Assay uses peroxidatic activity to determine enzymatic activity.
 - The enzyme with methanol in presence of optimal H_2O_2
 - The formaldehyde produced is measured colorimetrically with Purpald

Preparation

① - CAT assay buffer:

- dilute 2ml of buffer concentrate with 18ml HPLC-grade water
- Store at 4°C , for 2 months

② - CAT sample buffer

- dilute 5ml buffer with 45ml HPLC-grade water
- use to dilute the formaldehyde standards, control, samples
- Store at 4°C , 2 months

③ - CAT Formaldehyde Standard

- The vial contains ~~4.5~~ 4.25 M formaldehyde
- Ready to use

④ - CAT (control)

Add 2ml of diluted Sample Buffer

Further dilute by taking 100ml + 1.9ml sample buffer

* Only stable for 30min

* Reconstituted CAT (control) is stable for one month at -20°C

⑤ - CAT Potassium Hydroxide

Add 4ml of 10 mM KOH.

- Stable 3 month at 4°C

⑥ - CAT Hydrogen Peroxide

Dilute 40 μ l of CAT H₂O₂ with 9.96ml of HPLC-grade H₂O
 * Stable for 2 hours

⑦ - CAT Purpald

Contains 4ml of purpald in 0.5M hydrochloric acid
 Ready to use

⑧ - CAT Potassium Periodate

Contains 1.5ml of potassium Periodate in 0.5 M potassium hydroxide

— STANDARD

- Dilute 10 μ l of CAT Formaldehyde Standard with 9.99ml of diluted Sample Buffer to obtain a 4.25 mM formaldehyde stock solution
- Label tubes A - G, add accordingly

Plate Set up

	1	2	3	4	5	6	7	8	9	10	11	12
A	A	1	362	1	364	1	379	1	379	1	379	1
B	B	1	369	1	365	1	380	1	380	1	380	1
C	C	1	370	1	366	1	381	1	381	1	381	1
D	D	1	371	1	367	1	382	1	382	1	382	1
E	E	1	360	1	383	1	356	1	356	1	356	1
F	F	1	361	1	384	1	357	1	357	1	357	1
G	G	1	362	1	385	1	358	1	358	1	358	1
H	+	+	363	1	386	1	359	1	359	1	359	1

Tube	Formaldehyde (μ l)	Sample Buffer (μ l)	Final Volume (μ l)
A	0	1,000	1,000
B	10	990	1,000
C	30	970	1,000
D	60	940	1,000
E	90	910	1,000
F	120	880	1,000
G	150	850	1,000

* Final Formaldehyde concentration in the 170 μ l reaction

A-G = standards
 + = Positive control

- Performing the Assay

- Formaldehyde Standard Wells - Add 100 μ L of diluted Assay Buffer.

- 30 μ L of methanol (tubes A-G)

20 μ L of standard (tubes A-G)

- Positive Control Wells - Add 100 μ L of diluted assay buffer

30 μ L of methanol

20 μ L of diluted Catalase Control

- Sample well

Add 100 μ L of diluted Assay buffer

30 μ L of methanol

20 μ L of sample to two well

- Start Reaction by adding 20 μ L of diluted Hydrogen Peroxide

** Note start time. Wave fast*

• Cover plate, incubate on shaker 20 minutes. Room temperature

- Add 30 μ L of Potassium Hydroxide to each well to terminate Reaction

• add 30 μ L CAT purple to each well

• Cover plate, incubator for 10 minutes on shaker. Room temp.

- Add 10 μ L CAT Potassium Periodate

• Cover plate. 5 minutes, shaker. Room temp.

- Read the absorbance at 540

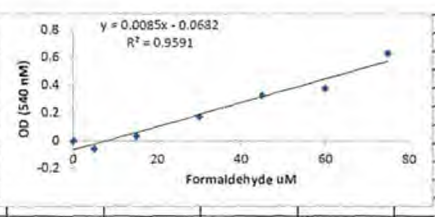
• Assay sensitive between 2~35 nmol/min/mL

• Catalase positive controls should give you absorbance ~ 0.29

— Calculation

- Calculate the average absorbances of each standard and samples
- Subtract the average of OD_{standard A} from itself and all other standard samples
- Plot corrected absorbance of standards (y-axis) VS final formaldehyde concentration (μM) from equation obtained from standard curve

Standard	OD 1 (540 nm)	OD 2 (540 nm)	Average	Corrected Av	Formaldehyde (μM)
A	0.1312	0.1502	0.1407	0	0
B	0.1863	0.1786	0.18245	-0.0584167	5
C	0.2813	0.2705	0.2759	0.0350333	15
D	0.3882	0.4365	0.41235	0.1714833	30
E	0.5317	0.6039	0.5678	0.3269333	45
F	0.5171	0.7139	0.6155	0.3746333	60
G	0.903	0.8398	0.8714	0.6305333	75
Positive Control	0.858	0.7262	0.7921	0.5512333	



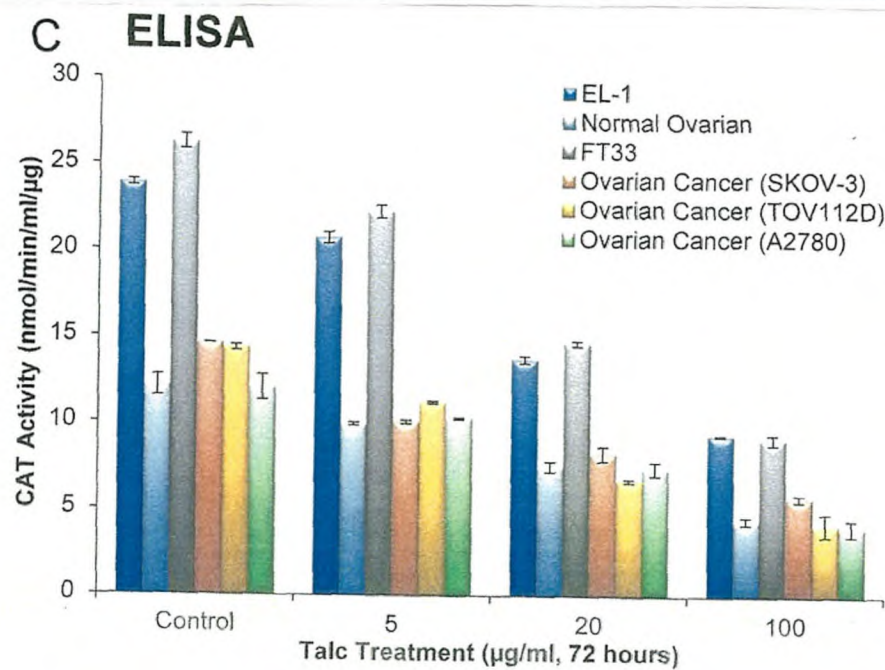
- Calculate the formaldehyde concentration of the samples using the equation obtained from the linear regression of the standard curve substituting corrected absorbance values for each sample

$$\text{Formaldehyde } (\mu\text{M}) = \left[\frac{\text{Sample absorbance} - (\text{y-intercept})}{\text{slope}} \right] \times \frac{0.1 \text{ ml}}{0.02 \text{ ml}}$$

- Calculate the CAT activity of the sample using the following equation
 • one unit is defined as the amount of enzyme will cause the formation of 1.0 nmol of formaldehyde per minute at 25°C

$$\text{CAT activity} = \frac{\mu\text{M of sample}}{20 \text{ min}} \times \text{Sample dilution} = \text{nmol/min/ml}$$

1/11/2018		OD 1	OD 2	OD 3	Corr 1	Corr2	Corr3	uM 1	uM 2	uM 3	nmol/ml/ml	nmol/ml/ml	nmol/ml/ml	2 ug protein used	
														Average	SD
	BLANK	0.2598	0.2361	0.2267	0.240866667										
	A2780-C	0.3723	0.4053	0.3827	0.13143333	0.16443333	0.14183333	199.63333	232.63333	210.03333	9.98	11.63	10.50	11.07	0.80
	A2780-5 ug	0.3562	0.3855	0.3544	0.11533333	0.14463333	0.11353333	183.53333	212.83333	181.73333	9.18	10.64	9.09	9.13	0.06
	A2780-20 ug	0.2978	0.287	0.2857	0.05693333	0.04613333	0.04483333	125.13333	114.33333	113.03333	6.26	5.72	5.65	5.95	0.43
	A2780-100 ug	0.2153	0.211	0.225	-0.02556667	-0.02986667	-0.01586667	42.633333	38.333333	52.333333	2.13	1.92	2.62	2.27	0.49
	SKOV-3-C	0.4022	0.4504	0.4506	0.16133333	0.20953333	0.20973333	229.53333	277.73333	277.93333	11.48	13.89	13.90	13.89	0.01
	SKOV-3-5 ug	0.3839	0.3521	0.3489	0.14303333	0.11123333	0.10803333	211.23333	179.43333	176.23333	10.56	8.97	8.81	8.89	0.11
	SKOV-3-20 ug	0.3168	0.3037	0.3438	0.07593333	0.06283333	0.10293333	144.13333	131.03333	171.13333	7.21	6.55	8.56	6.88	0.46
	SKOV-3-100 ug	0.2118	0.2988	0.2177	-0.02906667	0.05793333	-0.02316667	39.133333	126.13333	45.033333	1.96	6.31	2.25	4.13	3.08
	TOV-112-C	0.4422	0.4475	0.4411	0.20133333	0.20663333	0.20023333	269.53333	274.83333	268.43333	13.48	13.74	13.42	13.61	0.19
	TOV112-5 ug	0.3742	0.3762	0.3737	0.13333333	0.13533333	0.13284333	201.53333	203.53333	201.04333	10.08	10.18	10.05	10.13	0.07
	TOV112- 20ug	0.2783	0.27531	0.26998	0.03743333	0.03444333	0.02911333	105.63333	102.64333	97.313333	5.28	5.13	4.87	5.21	0.11
	TOV112-100 ug	0.211	0.2314	0.2251	-0.02986667	-0.00946667	-0.01576667	38.333333	58.733333	52.433333	1.92	2.94	2.62	2.43	0.72
	Normal ovarian-C	0.3862	0.4055	0.3934	0.14533333	0.16463333	0.15253333	213.53333	232.83333	220.73333	10.68	11.64	11.04	11.16	0.68
	Normal Ovarian-Talc 5 ug	0.3492	0.3461	0.3444	0.10833333	0.10523333	0.10353333	176.53333	173.43333	171.73333	8.83	8.67	8.59	8.75	0.11
	Normal ovarian-Talc 20 ug	0.2987	0.28972	0.28702	0.05783333	0.04885333	0.04615333	126.03333	117.05333	114.35333	6.30	5.85	5.72	6.08	0.32
	Normal Ovarian-100 ug	0.2231	0.2298	0.23111	-0.01776667	-0.01106667	-0.00975667	50.433333	57.133333	58.443333	2.52	2.86	2.92	2.69	0.24
	Fallopian-C	0.7118	0.6988	0.6177	0.47093333	0.45793333	0.37683333	539.13333	526.13333	445.03333	26.96	26.31	22.25	26.63	0.46
	Fallopian-5 ug	0.6112	0.62301	0.6222	0.37033333	0.38214333	0.38133333	438.53333	450.34333	449.53333	21.93	22.52	22.48	22.22	0.42
	Fallopian-20ug	0.4534	0.4487	0.4222	0.21253333	0.20783333	0.18133333	280.73333	276.03333	249.53333	14.04	13.80	12.48	13.92	0.17
	Fallopian-100 ug	0.3245	0.3333	0.3198	0.08363333	0.09243333	0.07893333	151.83333	160.63333	147.13333	7.59	8.03	7.36	7.81	0.31
	EL-1-C	0.6554	0.6498	0.6511	0.41453333	0.40893333	0.41023333	482.73333	477.13333	478.43333	24.14	23.86	23.92	24.00	0.20
	EL-1-5 ug	0.5891	0.57891	0.5899	0.34823333	0.33804333	0.34903333	416.43333	406.24333	417.23333	20.82	20.31	20.86	20.57	0.36
	EL-1-20 ug	0.4332	0.4265	0.4544	0.19233333	0.18563333	0.21353333	260.53333	253.83333	281.73333	13.03	12.69	14.09	12.86	0.24
	EL-1-100 ug	0.3332	0.3345	0.3582	0.09233333	0.09363333	0.11733333	160.53333	161.83333	185.53333	8.03	8.09	9.28	8.06	0.05



1/17/2018

CA-125 ELISA

RayBio. Cat # ELH-CA125

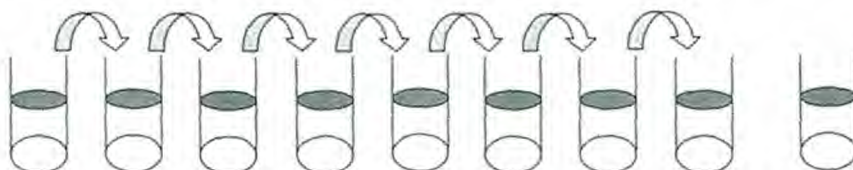
- This assay employs an antibody specific for human CA-125 coated on 96-well plate.
- CA125 present in sample is bound to the wells
- Wash away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to the wells,
- Wash again, color develop in proportion the amount of CA-125 bound
- Stop Solution, and measured at 450nm

- Preparation

- put all reagents and samples to room temperature (18-25°C).
- Assay Buffer Diluent diluted 5-fold with distilled H₂O.
- Sample dilution: 1X assay Diluent use for dilution of serum samples.
 - The suggested dilution for normal serum/plasma is 2 fold
 - * levels of CA-125 may vary between different samples.
 - Optimal dilution factors for each sample must be determined by the investigator

- Preparation of Standard: Briefly spin a vial of Item C.
~~add~~ Use the 400 U/ml standard solution to produce a dilution series (see below)

180 µl 200 µl 200 µl 200 µl 200 µl 200 µl 200 µl



		Std1	Std2	Std3	Std4	Std5	Std6	Std7	Zero Standard
Diluent volume	Item C+ 400 µl	270 µl	400 µl	400 µl	400 µl	400 µl	400 µl	400 µl	400 µl
Conc.	1,000 U/ml	400 U/ml	133.3 U/ml	44.45 U/ml	14.81 U/ml	4.94 U/ml	1.65 U/ml	0.55 U/ml	0 U/ml

SAED000035 (color)

- If the Wash Concentrate (20x) contains visible crystals, warm to room temperature and mix gently.
 - Dilute 20ml of Wash buffer Concentrate into deionized or distilled water to yield 400ml of 1X Wash Buffer
- Briefly spin the Detection Antibody vial before use.
 - add 100 μ l of 1X assay diluent into the vial to prepare a detection ~~mix~~ stored at 4°C for 5 days
- Briefly spin the HRP-Streptavidin Concentrate vial and pipette up and down to mix gently.
 - diluted 800-fold with 1X Assay Diluent

— Assay Procedure

- Bring all reagents and samples to room temperature (18~25°C)
- Label removable 8-well strips as appropriate for your experiment
- Add 100 μ l of each standard and sample into appropriate
 - cover wells and incubate for 2.5 hours at room temp. gently shake
- Discard the solution and wash 4 times with 1X Solution.
 - Wash with 300 μ l Wash Buffer.
 - Complete removal of liquid
 - After the last wash, remove any remaining wash buffer by aspirating
- add 100 μ l of 1X prepared biotinylated antibody
 - Incubate for 1 hour at room temperature, gently shaking
- Discard the solution, Repeat the wash

- 100 μ l of prepared Streptavidin Solution to each well
 - Incubate for 45 minutes, room temperature with gently shaking
- Discard the solution. Repeat the wash
- Add 100 μ l of TMB One-Step Substrate Reagent
 - Incubate 30 mins, room temperature in dark, gently shaking
- Add 50 μ l of stop Solution to each well.
- Read at 450 nm immediately.

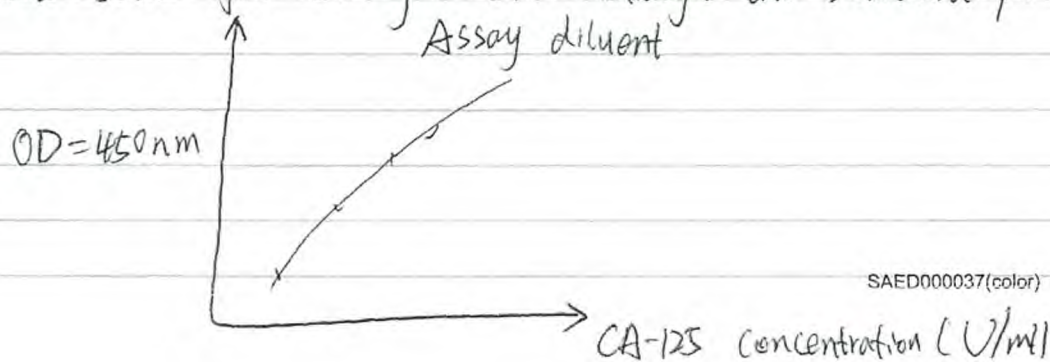
* The minimum detectable dose of CA-125 was determined to be 0.6 U.

* Intra-Assay CV%: < 10%

* Inter-Assay CV%: < 12%

— Calculation of results

- Calculate the mean absorbance for each set of duplicate standards, controls and samples and subtract the average zero standard optical density.
- Plot the standard curve on log-log graph paper or using Sigma plot software, with standard concentration on the x-axis and absorbance on the y-axis
- Draw the best-fit straight line through the standard points



— Recovery was determined by spiking various levels of CA-125 into the sample types listed below.

Sample Type	Average % Recovery	Range (%)
Serum	97.21	89-107
Plasma	76.88	68-85
Cell culture media	85.34	76-130

— Linearity

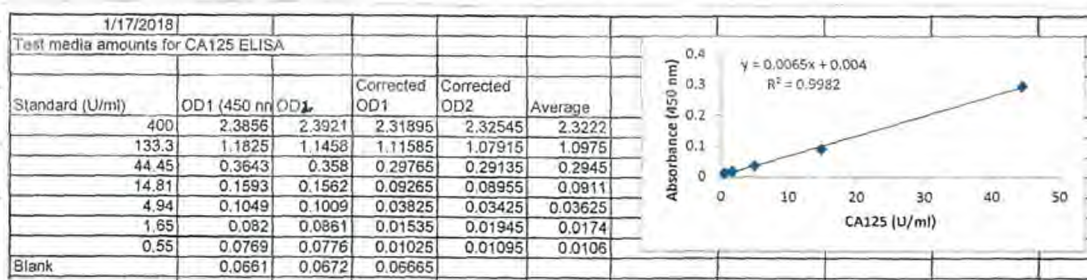
Sample Type		Serum	Plasma	Cell Culture Media
1:2	Average % of Expected	110.0	130.2	135.9
	Range (%)	99-118	119-138	125-142
1:4	Average % of Expected	107.5	126.4	92.99
	Range (%)	96-116	117-135	83-103

	1	2	3	4	5	6	7	8	9	10	11	12
A	A →	TAV112 →	NOE →									
B	B →	TAV112 + Talc →	NOE + Talc →									
C	C →	A2780 →	SKOV-3 →									
D	D →	A2780 + Talc →	SKOV-3 + Talc →									
E	E →	EL-1 →										
F	F →	EL-1 + Talc →										
G	G →	FTT →										
H	Blank →	FTT + Talc →										

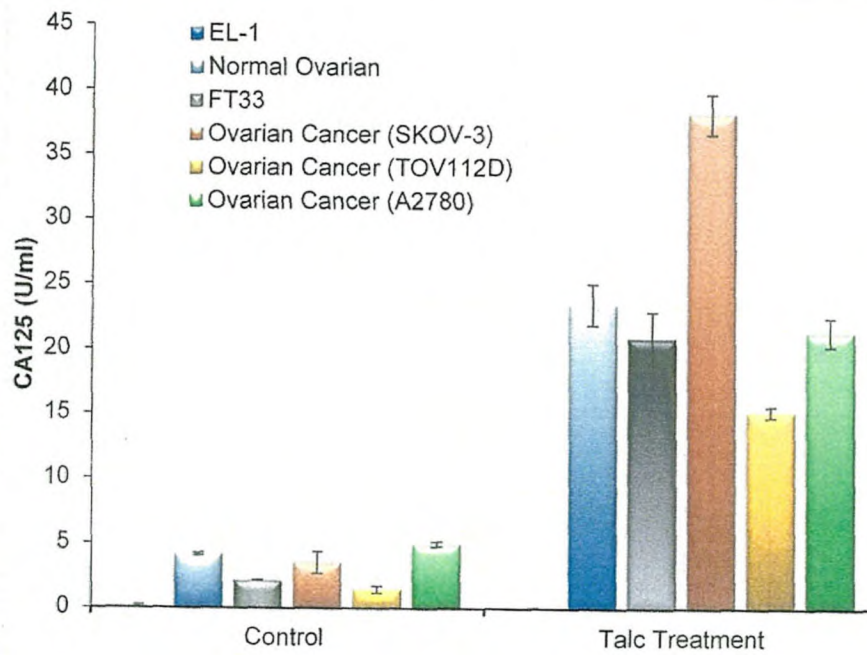
Plate set up

Talc Treatment: 100 µg/ml

Human CA-125 Standard curve.



in Media	0.0799	0.0885	0.0811	0.01325	0.02185	0.01445	0.01385								
mples	OD1	OD2	OD3	Corrected OD1	Corrected OD2	Corrected OD3	Corrected for Media OD1	Corrected for Media OD2	Corrected for Media OD3	CA125 U/ml	CA125 U/ml	CA125 U/ml	Average		
V112	0.096	0.0925	0.0939	0.02935	0.02585	0.02725	0.0155	0.012	0.0134	1.769230769	1.230769231	1.446153846	1.482051282	0	
V112+Talc	0.1849	0.1799	0.1843	0.11825	0.11325	0.11765	0.1044	0.0994	0.1038	15.44615385	14.67692308	15.35384615	15.15897436	0	
780	0.1179	0.1155	0.1172	0.05125	0.04885	0.05055	0.0374	0.035	0.0367	5.138461538	4.769230769	5.030769231	4.979487179	0	
780+ Talc	0.2216	0.2312	0.2172	0.15495	0.16455	0.15055	0.1411	0.1507	0.1367	21.09230769	22.56923077	20.41538462	21.35897436	1	
-1	0.0854	0.0862	0.0851	0.01875	0.01955	0.01845	0.0049	0.0057	0.0046	0.138461538	0.261538462	0.092307692	0.164102564	0	
-1+ Talc	0.0779	0.0795	0.0872	0.01125	0.01285	0.03055	-0.0026	-0.001	0.0167	-1.01538462	-0.76923077	1.953846154	0.056410256	1	
loplan	0.0968	0.0985	0.0985	0.03215	0.03185	0.03185	0.0183	0.018	0.018	2.2	2.153846154	2.153846154	2.169230769	0	
loplan + Talc	0.2112	0.2355	0.2144	0.14455	0.16885	0.14775	0.1307	0.155	0.1339	19.49230769	23.23076923	19.98461538	20.9025641	2	
mal Ovarian	0.1111	0.1124	0.1114	0.04445	0.04575	0.04475	0.0306	0.0319	0.0309	4.062307692	4.292307692	4.138461538	4.174358974	0	
mal ovarian + Talc	0.222	0.234	0.255	0.15535	0.16735	0.18835	0.1415	0.1535	0.1745	21.15384615	23	26.23076923	23.46153846	2	
DV-3	0.1012	0.1103	0.1111	0.03455	0.04365	0.04445	0.0207	0.0288	0.0306	2.569230769	3.969230769	4.092307692	3.543589744	0	
DV3 +talc	0.3389	0.3211	0.3384	0.27225	0.25445	0.27175	0.2584	0.2406	0.2579	39.13846154	36.4	39.06153846	38.2	1	



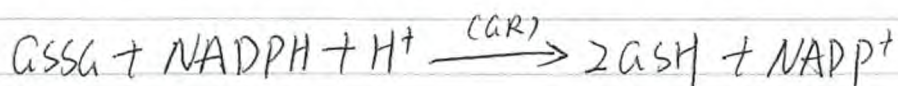
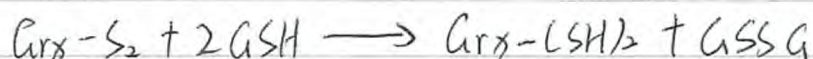
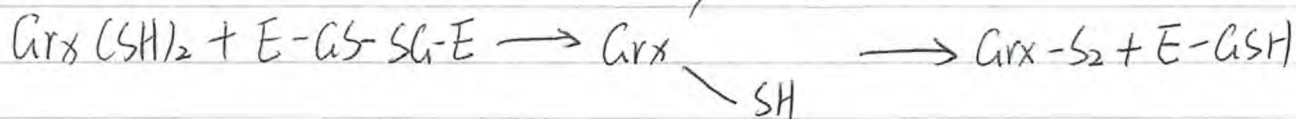
62

2/20/2018

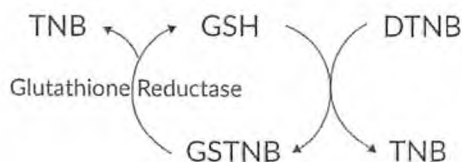
Glutathione assay

(Cayman chemical Cat # 703002)

S-SG-E



- This kit measure the amount of total glutathione (GSH + GSSG)
- GSH is easily oxidized to the disulfide dimer GSSG. GSSG is produced during the reduction of hydroperoxides by glutathione peroxidase.
- This kit can also be used to measure only GSSG



GSH recycling

— Reagent Preparation

- GSH MES Buffer (2X): 0.4 M 2-ethanesulphonic acid, 0.1 M phosphate, 2 mM EDTA
- Dilute 60 mL of buffer with 60 mL of HPLC-water
- GSSG standard: 2 mL of 25 mM GSSG in MES buffer
- Ready to use
- GSH Co-Factor Mixture: a lyophilized powder of NADP⁺ and glucose-6-phosphate
- add 0.5 mL HPLC-water
- GSH Enzyme mixture: glutathione reductase and glucose-6-phosphate in 0.2 mL B_{eff}
- add 2 mL of diluted MES Buffer

— GSH DTNB : a lyophilized powder of DTNB

Sample preparation :

- Collect cells by centrifugation , 1000~2000xg for 10min. 4°C
- The cell pellet can be homogenized in 1-2ml of cold buffer.
- Centrifuge 10000xg , 15min. 4°C
- Remove the supernatant , store on ice

Assay protocol :

— plate set up

	1	2	3	4	5	6	7	8	9	10	11	12
A	A	383	356	360								
B	B	384	357	361								
C	C	385	358	362								
D	D	386	359	363								
E	E	377	368	364								
F	F	380	369	365								
G	G	381	370	366								
H	H	382	371	367								

Standards

Standard preparation

- Take eight clean test tubes and mark them A-H
- Aliquot the GSSG standard and MES buffer to each tube as described in table.

Tube	GSSG Standard (μl)	MES Buffer (μl)	Final Concentration (μM GSSG)	Equivalent Total GSH (μM)*
A	0	500	0	0
B	5	495	0.25	0.5
C	10	490	0.5	1.0
D	20	480	1.0	2.0
E	40	460	2.0	4.0
F	80	420	4.0	8.0
G	120	380	6.0	12.0
H	160	340	8.0	16.0

SAED000042(color)

Performing the Assay

1. Add 50μl Standard (A-H)

2. Add 50μl samples to each of sample wells

3. Cover the plate with the plate cover

4. Prepare the assay and mix:

MES buffer 11.25mL

Cofactor mixture 0.45mL

Enzyme mixture 2.1mL

Water 2.3 mL

DTNB 0.45mL

5. Remove the plate cover and add 150μl of freshly prepared Assay Cocktail to each of wells.

- Replace the plate cover

- Incubate the plate in the dark on an orbital shaker

6. GSH concentration of samples determined by the End Point Method.

- End point method: Read Plate at 405-414nm after 25 minutes

- Kinetic Method: Read the plate at 405-414nm at 5 minutes intervals for 30 minutes.

Analysis

1. calculate the average absorbance from 25 minutes for each standard and sample

2. Subtract the absorbance value of the standard A from itself and all other values.

3. Plot the corrected absorbance values of each standard as a function of the concentration of ASSG or Total GSH

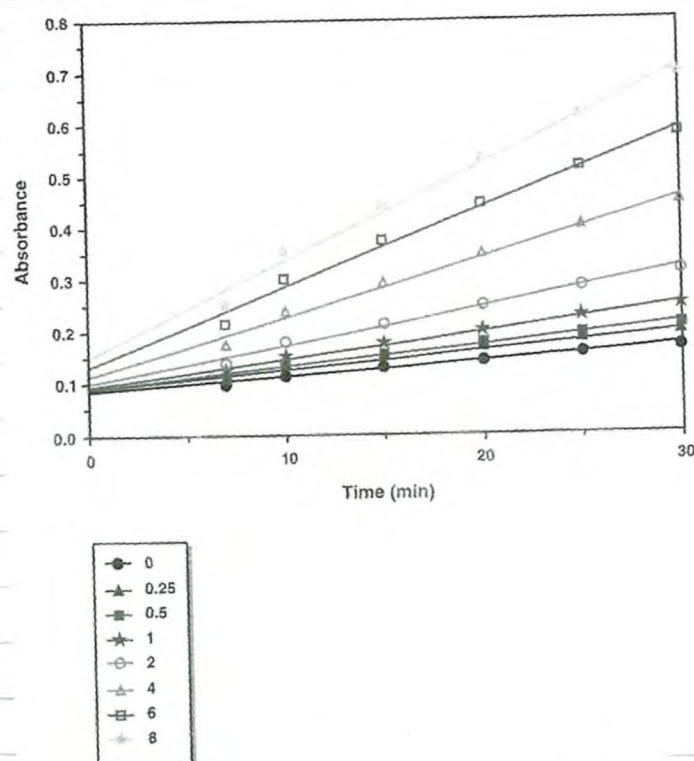
4. Calculate the values of ASSG or Total GSH for each sample from the standard curve

$$\text{Total GSH or ASSG} = \frac{A_{405} - y\text{-intercept}}{\text{slope}} \times 2 \times \text{Sample dilution}$$

If sample required deprotection multiply by "2" to account for the addition of MPA Reagent

Kinetic Method

1. Plot the average absorbance values of each standard and sample as a function of time and determine the slope for each curve



Plot of absorbance versus time for each standard

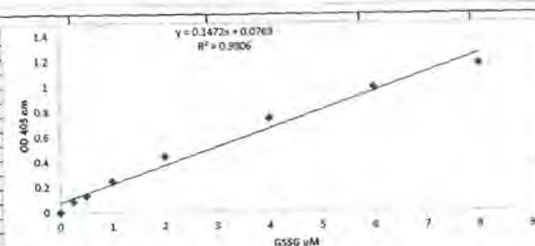
2. Plot the i-slopes of each standard as a function of concentration of ASSG

3. Calculate the values of ASSG for each sample from their respective slopes using the slope versus ASSG standard curve.

$$\text{Total ASH or ASSG} = \frac{(\text{i-slope for sample}) - \text{y-intercept}}{\text{f-slope}} \times 2 \times \text{Sample dilution}$$

Inter-assay coefficient of variation is 3.5%
 Inter-assay coefficient is 1.6%

Standard GSSG uM	OD1	OD2	OD3	Average	Corrected
0	0.2398	0.2422	0.2396	0.240533333	0
0.25	0.3139	0.3119	0.3532	0.326333333	0.0858
0.5	0.3769	0.3713	0.3738	0.374	0.133466667
1	0.4877	0.4856	0.4845	0.485933333	0.2454
2	0.6801	0.6853	0.6807	0.682033333	0.4415
4	0.9867	0.99	0.9868	0.987833333	0.7473
6	1.2273	1.2338	1.2322	1.2311	0.990566667
8	1.4006	1.4119	1.4267	1.413066667	1.172533333



2/20/2018	using 30ug protein													
SAMPLE	OD1	OD2	OD3	uM GSSG	uM GSSG	uM GSSG	DF	x DF x2 for deprot	x DF x2 for deprot	x DF x2 for deprot	Average	SD		
Normal ovarian-C	0.8465	0.9063	0.9107	0.605966667	0.665766667	0.670166667	2.6984127	3.270296296	3.593026455	3.616772487	3.6048595	0.016791		
Normal Ovarian-Talc 5 ug	0.768	0.7602	0.7945	0.527466667	0.519666667	0.553966667	17.989418	2.846645503	2.804550265	2.989661376	2.8802857	0.0970324		
Normal ovarian-Talc 20 ug	0.5931	0.589	0.5346	0.352506667	0.348466667	0.294066667	5.3968254	1.902740741	1.880613757	1.587026455	1.8916772	0.0156461		
Normal Ovarian-100 ug	0.375	0.3655	0.3628	0.134466667	0.124966667	0.122266667	6.3968254	0.725693122	0.67442328	0.659851852	0.7000582	0.0362533		
Fallopian-C	1.2553	1.2725	1.2698	1.014766667	1.031966667	1.029266667	7.3968254	5.476518519	5.569343915	5.554772487	5.5229312	0.0656375		
Fallopian-5 ug	0.9852	0.9655	0.9746	0.744666667	0.724966667	0.734066667	8.3968254	4.018835979	3.912518519	3.96162963	3.9656772	0.0751778		
Fallopian-20ug	0.7626	0.7666	0.7584	0.522066667	0.526066667	0.517866667	9.3968254	2.817502646	2.839089947	2.794835979	2.8282963	0.0152645		
Fallopian-100 ug	0.4561	0.4121	0.4872	0.215566667	0.171566667	0.246666667	10.3968254	1.163375661	0.925915344	1.331216931	1.0446455	0.1679098		
EL-1-C	1.1861	1.0981	1.2	0.945566667	0.857566667	0.959466667	12.3968254	5.103058201	4.628137566	5.178074074	4.8655979	0.3358196		
EL-1-5 ug	0.9011	0.8912	0.911	0.660566667	0.650566667	0.670466667	13.3968254	3.564962963	3.510994709	3.618391534	3.5379788	0.0381613		
EL-1-20 ug	0.711	0.821	0.8812	0.470466667	0.630466667	0.640666667	14.3968254	2.539026455	3.457566138	2.9707725	0.6105811			
EL-1-100 ug	0.4555	0.544	0.511	0.214966667	0.303466667	0.270466667	15.3968254	1.160137566	1.637756614	1.459661376	1.3989471	0.3377227		
A2780-C	1.356	1.411	1.366	1.125466667	1.170466667	1.125466667	17.3968254	6.07394709	6.316804233	6.07394709	6.1953757	0.1717259		
A2780-5 ug	1.244	1.1482	1.122	1.003466667	0.907866667	0.881466667	18.3968254	5.415534392	4.898518519	4.757121693	5.1570265	0.3655854		
A2780-20	0.9551	0.8792	0.799	0.714566667	0.638666667	0.558466667	19.3968254	3.856391534	3.446772487	3.01394709	3.551582	0.2896444		
A2780-100 ug	0.5111	0.5514	0.6321	0.270566667	0.310866667	0.392566667	20.3968254	1.460201058	1.677693122	2.118613757	1.5689471	0.1537991		
SKOV-3-C	1.2297	1.311	1.295	0.989166667	1.070466667	1.054466667	21.3968254	5.338359788	5.777121693	5.690772487	5.577407	0.3102515		
SKOV-3-5 ug	1.0221	1.1087	1.098	0.781566667	0.868166667	0.857466667	22.3968254	4.217978836	4.685343915	4.627597884	4.4516614	0.330477		
SKOV-3-20 ug	0.8972	0.9112	0.799	0.656666667	0.670666667	0.558466667	23.3968254	3.543915344	3.619470899	3.01394709	3.5816931	0.0534258		
SKOV-3-100 ug	0.555	0.6113	0.599	0.314466667	0.370766667	0.358466667	24.3968254	1.697121693	2.000962963	1.934582011	1.8490423	0.2148482		
TOV-112-C	1.1027	1.226	1.201	0.862166667	0.985466667	1.060466667	25.3968254	4.652962963	5.318391534	5.723153439	4.9856772	0.4705291		
TOV112-5 ug	0.8932	0.9032	0.991	0.652666667	0.662666667	0.750466667	26.3968254	3.522328042	3.576296296	4.050137566	3.5493122	0.0381613		
TOV112-20ug	0.6671	0.5982	0.555	0.426566667	0.357666667	0.314466667	27.3968254	2.30210582	1.93026455	1.697121693	2.1161852	0.2629315		
TOV112-100 ug	0.444	0.3807	0.3775	0.203466667	0.149166667	0.136966667	28.3968254	1.098074074	0.805026455	0.739185185	0.9515503	0.207216		

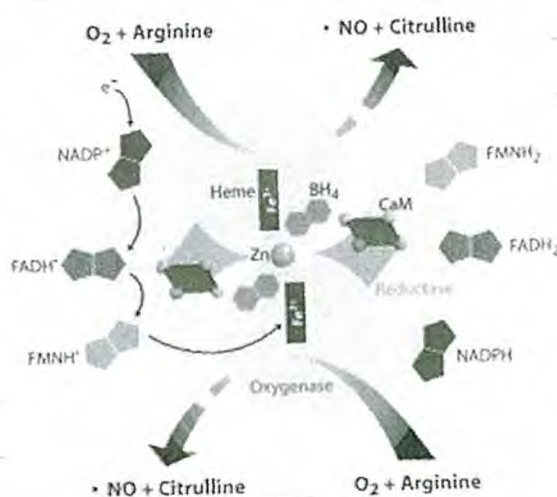
Nitrate/Nitrite Assay Kit

2/25/2018

(LDH method)

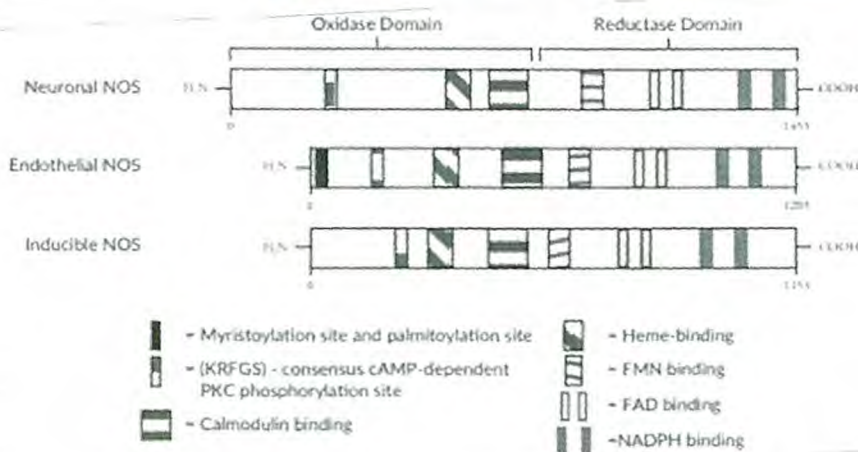
Cat # 760871

- Nitric Oxide (NO) is synthesized in biological systems by the Nitric Oxide Synthase (NOS)
- NOS is remarkably complex enzyme which acts on molecular oxygen, arginine, and NADPH to produce NO, citrulline, and NADP⁺
- This process requires five additional cofactors and two divalent cations.

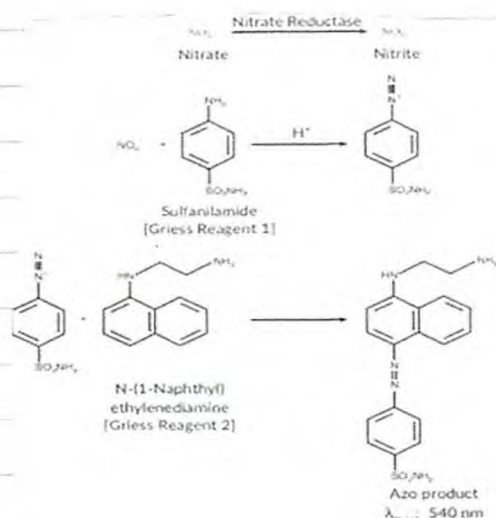


Nitric Oxide Synthesis

Nitric Oxide Synthase Isoforms



SAED000046(color)



Chemistry of the Griess Reagents

— Preparation

— Nitrate/Nitrite Assay Buffer

- Dilute with 100ml UltraPure water
- Store two months at 4°C

— Nitrate Reductase (LDH method)

- Reconstitute with 1.2ml of Assay Buffer

** keep on ice during ice*

- Store at -20°C , Freeze and thawing of this limited one time.

— Lactate Dehydrogenase Cofactor Preparation

- Reconstitute with 1.2ml of Assay Buffer

** keep on ice during ice*

- Store at -20°C , Freeze and thawing of this one time

— Nitrate Standard

- Reconstitute with 1.0ml of Assay Buffer
- Store 4°C 4 months.

— Lactate Dehydrogenase

- Reconstitute the contents of the vial with 1.2 mL of Assay buffer
- * keep on ice during use
- store at -20°C , one time use

— Griess Reagent R1 and R2

- Ready to use. no add
- store at 4°C

— NADPH

- Prepare a 1 mM solution of NADPH in assay buffer.
- $\geq 1\text{mM}$ solution of NADPH will required.
- $0.017\text{g} = (833.4\text{g/mol})(0.001\text{M})(\text{X L}) \Rightarrow \text{X} = 0.0204\text{L}$
 $= 20.4\text{ mL}$

* Need media blance for each type medium
 — RPMI have high Nitrate ~~th~~ Levels.

Sample ID	
356	EL1 Unt
357	EL1 5 ug/ml Talc
358	EL1 20 ug/ml Talc
359	EL1 100 ug/ml Talc
360	SKOV-3 unt
361	SKOV-3 5ug/ml
362	SKOV-3 20ug/ml
363	SKOV-3 100ug/ml
364	TOV112 Unt
365	TOV112 5 ug/ml Talc
366	TOV112 20 ug/ml Talc
367	TOV112 100 ug/ml Talc
368	A2780 Unt
369	A2780 5 ug/ml
370	A2780 20 ug/ml
371	A2780 100 ug/ml
379	FT33 unt
380	FT33 5ug/ml
381	FT33 20 ug/ml
382	FT33 100 ug/ml
383	NOE unt
384	NOE 5 ug/ml Talc
385	NOE 20 ug/ml Talc
386	NOE 100 ug/ml Talc

- Standard Preparation

- In 1.5ml tube, add 0.9ml Assay buffer and 0.1ml reconstituted nitrate standard and vortex. (Now 200 μ M)
- Use this standard for the preparation of standard curve as described below

Well	Nitrate Standard (μ l)	Assay Buffer (μ l)	Final Nitrate Concentration (μ M)*	Nitrate per well (nmoles)
A1, A2	0	60	0	0
B1, B2	5	55	5	1
C1, C2	10	50	10	2
D1, D2	15	45	15	3
E1, E2	20	40	20	4
F1, F2	25	35	25	5

Assay

1. add standards to wells - as stated above
2. add 200 μ l of Assay Buffer to Blank well
3. add 60 μ l of sample the wells.
 - add 60 μ l media control
4. add 10 μ l of the freshly prepared NADPH solution (1mM) } standard
samples
5. add 10 μ l of the Nitrate Reductase mixture.
6. Incubate at room temperature 40 minutes
7. add 10 μ l of the cofactors solution and 10 μ l of the LDH solution
8. Incubate at room temperature for 20 minutes
9. add 50 μ l Griess Reagent R1
10. add 50 μ l Griess Reagent R2
11. 10 minutes at room temperature
12. Read at 540nm or 550nm

Calculation

- Subtract the blanks
- plotting the standard curve

$$\Delta [\text{Nitrate} + \text{Nitrite}] (\mu\text{M}) = \left[\frac{A_{540} - (\text{y-intercept})}{\text{slope}} \right] \left[\frac{200 \mu\text{l}}{V_{\text{sample}} (\mu\text{l})} \right] \times \text{dilution}$$

Raw data & Plate set up

	1	2	3	4	5	6	7	8	9	10	11	12
A	A	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
B	B	364	368	379	380	381	382	383	384	385	386	387
C	C	365	369	370	371	372	373	374	375	376	377	378
D	D	366	370	371	372	373	374	375	376	377	378	379
E	E	367	371	372	373	374	375	376	377	378	379	380
F	F	368	372	373	374	375	376	377	378	379	380	381
G	G	369	373	374	375	376	377	378	379	380	381	382
H	H	370	374	375	376	377	378	379	380	381	382	383

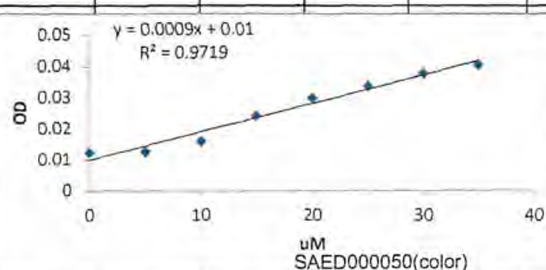
plate

A-G : standards

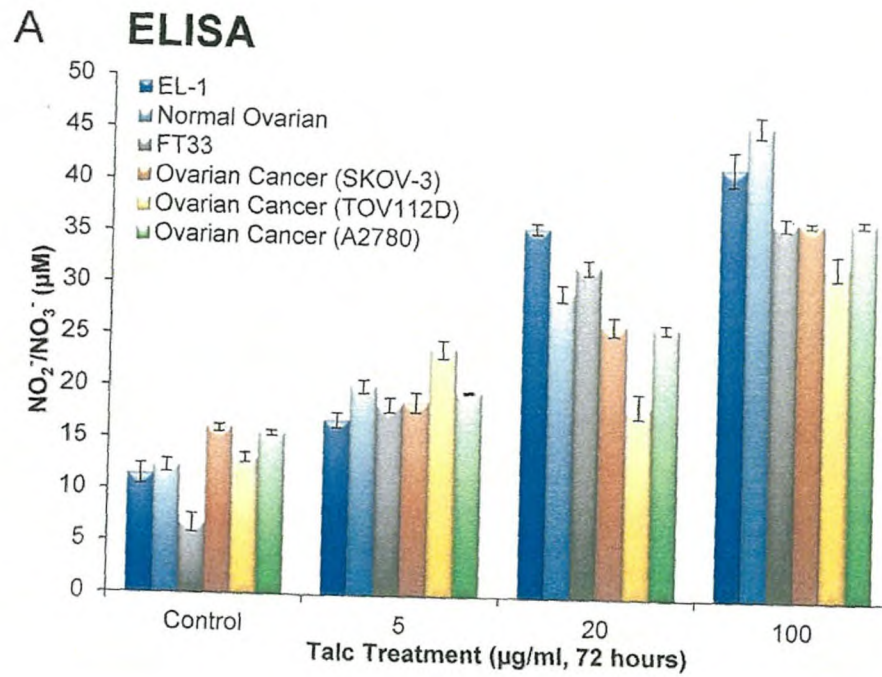
STD	1	2	3	4	5	6	7	8	9	10	11	12
0.048	0.0481	0.0468	0.049	0.0493	0.0495	0.0498	0.0501	0.0504	0.0507	0.051	0.0513	0.0515
0.0484	0.0482	0.0578	0.0572	0.0592	0.05983	0.0589	0.0555	0.05113	0.05215	0.05228	0.08321	0.08321
0.0491	0.0541	0.0662	0.0651	0.0681	0.06345	0.06427	0.06333	0.06141	0.06051	0.0631	0.08541	0.08541
0.0614	0.0582	0.06321	0.0617	0.0626	0.06945	0.06881	0.06828	0.07342	0.07435	0.0755	0.0755	0.0755
0.0657	0.0652	0.0776	0.0734	0.0761	0.07883	0.0977	0.07843	0.07891	0.07833	0.0811	0.0811	0.0811
0.071	0.0677	0.0544	0.0604	0.0603	0.0571	0.0565	0.0563	0.05531	0.05732	0.0566	0.0566	0.0566
0.0746	0.0722	0.0635	0.0653	0.0651	0.06422	0.06334	0.06342	0.06132	0.06312	0.0604	0.0604	0.0604
0.0773	0.075	0.0684	0.065	0.06877	0.07112	0.07213	0.07321	0.07745	0.07569	0.07811	0.07811	0.07811

Standard curve

CONC	STANDER W/O MEDIA		avg	correct
0	0.048	0.0481	0.04805	0.012417
5	0.0484	0.0482	0.0483	0.012667
10	0.0491	0.0541	0.0516	0.015967
15	0.0614	0.0582	0.0598	0.024167
20	0.0657	0.0652	0.06545	0.029817
25	0.071	0.0677	0.06935	0.033717
30	0.0746	0.0722	0.0734	0.037767
35	0.0773	0.075	0.07615	0.040517
blank	0.0346	0.0363	0.036	0.035633
				0



samp		1	2	3	- blank	- blank	- blank	uM	uM	uM	avg	Sd
	HOSEpiC	0.0468	0.049	0.0493	0.011167	0.013367	0.013667	1.296296	3.740741	4.074074	3.907407	0.23570226
	TOV-112-C	0.0578	0.0572	0.0592	0.022167	0.021567	0.023567	13.51852	12.85185	15.07407	13.18519	0.47140452
	TOV112-5 ug	0.0662	0.0651	0.0681	0.030567	0.029467	0.032467	22.85185	21.62963	24.96296	23.90741	1.49278098
	TOV112-20ug	0.06321	0.0617	0.0626	0.027577	0.026067	0.026967	19.52963	17.85185	18.85185	18.69074	1.18636804
	TOV112-100 ug	0.0776	0.0734	0.0761	0.041967	0.037767	0.040467	35.51852	30.85185	33.85185	32.35185	2.1213
	SK23V-20 ug	0.0597	0.0602	0.0603	0.024067	0.024567	0.024667	15.62963	16.18519	16.2963	16.03704	0.35717225
	SK23V-100 ug	0.0619	0.0657	0.06311	0.026267	0.030067	0.027477	18.07407	22.2963	19.41852	18.7463	0.95066578
	SK23V-20 ug	0.0699	0.06912	0.068777	0.034267	0.033487	0.033144	26.96296	26.0963	25.71519	26.33907	0.88231213
	SK23V-100 ug	0.0778	0.07812	0.07922	0.042167	0.042487	0.043587	35.74074	36.0963	37.31852	36.52963	1.11565737
	A2780-C	0.05983	0.0589	0.0555	0.024197	0.023267	0.019867	15.77407	14.74074	10.96296	13.36852	3.40196929
	A2780-5 ug	0.06345	0.06427	0.06333	0.027817	0.028637	0.027697	19.7963	20.70741	19.66296	19.72963	0.0942809
	A2780-20 ug	0.06945	0.06881	0.06888	0.033817	0.033177	0.033247	26.46296	25.75185	25.82963	26.1463	0.44783429
	A2780-100 ug	0.07883	0.0977	0.07843	0.043197	0.062067	0.042797	36.88519	57.85185	36.44074	36.66296	0.31426968
	Normal ovarian-C	0.0571	0.0565	0.0563	0.021467	0.020867	0.020667	12.74074	12.07407	11.85185	12.2963	0.62853936
	Normal Ovarian-Talc 5 ug	0.06422	0.06334	0.06342	0.028587	0.027707	0.027787	20.65185	19.67407	19.76296	20.20741	0.62853936
	Normal ovarian- Talc 20 ug	0.07112	0.07213	0.07321	0.035487	0.036497	0.037577	28.31852	29.44074	30.64074	29.47963	1.64205908
	Normal Ovarian-100 ug	0.08625	0.08553	0.08752	0.050617	0.049897	0.051887	45.12963	44.32963	46.54074	45.83519	0.99780624
	Fallopian-C	0.05113	0.05215	0.05228	0.015497	0.016517	0.016647	6.107407	7.240741	7.385185	6.746296	0.90352533
	Fallopian-5 ug	0.06141	0.06051	0.0631	0.025777	0.024877	0.027467	17.52963	16.52963	19.40741	18.46852	1.3277894
	Fallopian-20ug	0.07342	0.07435	0.0755	0.037787	0.038717	0.039867	30.87407	31.90741	33.18519	32.02963	1.63420234
	Fallopian-100 ug	0.07891	0.07833	0.0811	0.043277	0.042697	0.045467	36.97407	36.32963	39.40741	38.19074	1.7206265
	EL-1-C	0.05531	0.05732	0.0566	0.019677	0.021687	0.020967	10.75185	12.98519	12.18519	11.46852	1.01351972
	EL-1-5 ug	0.06132	0.06312	0.0604	0.025687	0.027487	0.024767	17.42963	19.42963	16.40741	16.91852	0.72282027
	EL-1-20 ug	0.07745	0.07569	0.07811	0.041817	0.040057	0.042477	35.35185	33.3963	36.08519	35.71852	0.51854497
	EL-1-100 ug	0.08112	0.08321	0.08541	0.045487	0.047577	0.049777	39.42963	41.75185	44.1963	41.81296	3.37054232

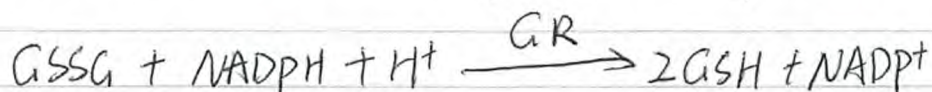


4/8/2018

GSR Assay

Cayman Chem. Cat # 703202

- Glutathione reductase catalyzes NADPH dependent reaction of oxidized GSH (GSSG) to GSH.
- A high GSH/GSSG ratio crucial for protein against ox. stress



- Oxidation of NADPH to NADP⁺ accompanied by a decrease in absorbance at 340 nm.
- Preparation

- GR Assay Buffer (10x)

- dilute 2ml assay buffer with 18ml HPLC-grade water
- store 2 months, at 4°C
- must be 25°C to be use in assay

- GR Sample Buffer (10x)

- dilute 2ml Sample buffer with 18ml HPLC-grade water
- use to dilute GR Control + GR samples
- store 1 month, at 4°C

- GR Control

- Aliquot and store at -20°C
- transfer 10µl to tube plus 990µl sample Buffer
- keep on ice, stable for 2 hours
- Will cause ~0.04 absorbance (U/min)

- GSSG

- Ready to use

- GR - NADPH

- Each vial enough for 40 vxns/wells
- Add 2ml HPLC-grade water + Vortex
- keep at Room Temp. store at 4°C, stable for 2 days
- No refreezing

— Assay Procedure

* Final Volume of assay is 190 μ l/well, detect at 340nm

1. Add 120µl Assay Buffer and 20µl GSSG to 3 wells. → Blank
2. Add 100µl Assay Buffer and 20µl GSSG and 20µl dilute Control to 3 wells. → Control
3. For samples, add : 100µl Assay buffer
20µl GSSG
20µl Samples

*Amt GR added should cause absorbance \downarrow between 0.08 ~ 0.1 / min

4. Initiate rxn: add 50 μ L NADPH to All wells

* as fast as possible

5. Shake plate for few seconds to mix.
6. Read absorbance at 340nm ~~once~~ every minute.

- Get 5 time points
- Initial reading should be not above 1.2 or below 0.5

- Calculation

1. Δ absorbance per minute
 - plot absorbance values vs time
 - get slope



2. Determine rate of $\Delta A_{440}/\text{min}$ for background/blance and subtract from rate of sample wells

3. NADPH extinction coefficient = $0.00373 \mu\text{M}^{-1}$

- 1 unit = amt. enzyme that will cause oxidation at 1.0 nmol
- actual extinction is $0.00622 \mu\text{M}^{-1} \text{cm}^{-1}$ - adjust from path of well.
- NADPH to NADP^+ per min at 25°C

$$\text{GR activity} = \frac{\Delta A_{340}/\text{min}}{0.00373 \mu\text{M}^{-1}} \times \frac{0.19 \text{ mL}}{0.02 \text{ mL}} \times \text{dilution} = \text{nmol/min/mL}$$

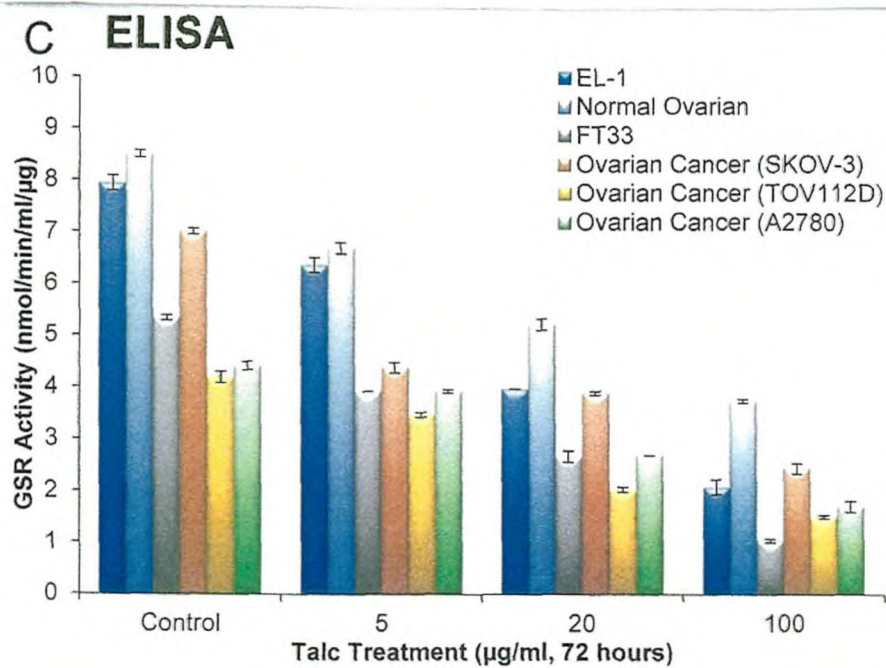
- Activity of $20 \sim 255 \text{ nmol/min/mL}$ are in reproducible range
- this is equal to absorbance decrease of $0.008 \sim 0.1/\text{min}$

	1	2	3	4	5	6	7	8	9	10	11	12
A	Blank	+	282	+	366	+	370	+				
B	383	+	356	+	367	+	371	+				
C	384	+	359	+	360	+						
D	385	+	358	+	361	+						
E	388	+	359	+	362	+						
F	379	+	+	+	363	+						
G	380	+	364	+	362	+						
H	381	+	365	+	369	+						

Plate:

+: positive control

		Abs 1	Abs 2	Slope		Abs 1	Abs 2	Slope		Abs 1	Abs 2	Slope	Avg backgr	Average nmol/min	SD
	Background	0.2641	0.2598	0.0014333		0.2598	0.2586	0.0004		0.2593	0.2588	0.0001667	0.00028	0.00067	
383	Normal ovarian-C	0.0897	0.0731	0.00332	8.456	0.0792	0.0624	0.00336	8.558	0.0771	0.0597	0.00348	8.863	8.50670	0.072037688
384	Normal Ovarian-Talc 5 ug	0.5085	0.495	0.0027	6.877	0.501	0.4877	0.00266	6.775	0.5011	0.4881	0.0026	6.622	6.69839	0.10806
385	Normal ovarian- Talc 20 ug	0.4879	0.4777	0.00204	5.196	0.4873	0.4769	0.00208	5.298	0.4831	0.473	0.00202	5.145	5.22118	0.10806
386	Normal Ovarian-100 ug	0.4622	0.455	0.00144	3.668	0.4447	0.4374	0.00146	3.718	0.4467	0.4393	0.00148	3.769	3.74397	0.03602
379	Fallopian-C	0.4983	0.4879	0.00208	5.298	0.4751	0.4646	0.0021	5.349	0.4692	0.4586	0.0012	5.399	5.34853	0.05094
380	Fallopian-5 ug	0.4286	0.4209	0.00154	3.922	0.4333	0.4258	0.0015	3.820	0.4318	0.4241	0.00154	3.922	3.92225	0.00000
381	Fallopian-20ug	0.4299	0.4245	0.00108	2.751	0.4316	0.4264	0.00104	2.649	0.4318	0.4267	0.00102	2.598	2.67426	0.10806
382	Fallopian-100 ug	0.4245	0.4225	0.0004	1.019	0.4311	0.4293	0.00036	0.917	0.4318	0.4297	0.00042	1.070	1.04424	0.03602
356	EL-1-C	0.4363	0.4205	0.00316	8.048	0.4377	0.4222	0.0031	7.895	0.4377	0.4223	0.00308	7.845	7.94638	0.14408
357	EL-1-5 ug	0.4347	0.422	0.00254	6.469	0.4349	0.4225	0.00248	6.316	0.4349	0.4226	0.00246	6.265	6.36729	0.14408
358	EL-1-20 ug	0.4298	0.422	0.00156	3.973	0.4301	0.4224	0.00154	3.922	0.4318	0.424	0.00156	3.973	3.97319	0.00000
359	EL-1-100 ug	0.4264	0.4225	0.00078	1.987	0.4311	0.4269	0.00084	2.139	0.4278	0.4235	0.00086	2.190	2.08847	0.14408



5/14/2018

Glutathione Peroxidase Assay Kit (Cayman chemical Cat # 703102)

- GPx Catalyzes the reduction of hydroperoxides, including H_2O_2 by reduced GSH, protecting cell from oxidative damage.
- All are tetramers of 4 identical subunits.
- Each subunit contains a selenocysteine in active site which participates directly in the $2e^-$ reduction of peroxide substrate
 - GSH used as e^- donor to regenerate reduced form of selenocysteine



- Oxidation of NADPH to $NADP^+$ accompanied by a decrease in absorbance at 340nm

Reagent Preparation

1. GPx assay buffer (10x) , 3ml / vial
 - Add 27ml HPLC- H_2O to contents of vial
 - Store $4^\circ C$, 6 months
2. GPx Sample Buffer (10x)
 - dilute 2ml concentrate ~ 18ml HPLC- H_2O
 - Use to dilute control and samples
 - Store $4^\circ C$, stable for 1 month

3. Calubathine Peroxidase (Control) — 50µl bovine erythrocyte GPs

- Aliquot and store at -20°C
- Transfer 10µl to tube plus 490µl sample buffer — on ice
- Stable 4 hours. No freezing.
- Absorbance by 0.051 µl/min

4. GPx Co-Substrate mixture — Vial good for 40 wells

- Vial has NADPH, GSH, GR
- Add 2ml 25°C while in use
- Store 4°C , 2 days, No refreezing

5. GPx Cument Hydroperoxide — ready to use

- -20°C storage

* Final volume is 180µl/well

- Detect at 340nm

— Assay

1. add 120µl assay buffer, 50µl co-substrate mixture to 3 wells

- Blank / background

2. Positive Control

- 100µl assay buffer.
- 50µl co-substrate mix.
- 20µl diluted GPx Control to 3 wells

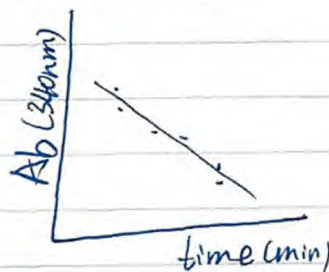
3. Samples.

- add 100µl assay buffer
- 50µl co-substrate mix
- 30µl Sample

4. Initiate rxn by adding 20µl Cumene hydroperoxide per well as fast as possible

- Shake to mix

5. Detect at 340nm Once every minute, at least 5 time point
 - Initial absorbance not above 1.2 or below 0.5



— Calculations

1. Determine ΔA_{340nm} per minutes

• get slope

2. Determine rate of background, subtract from rate of samples.

3. Activity

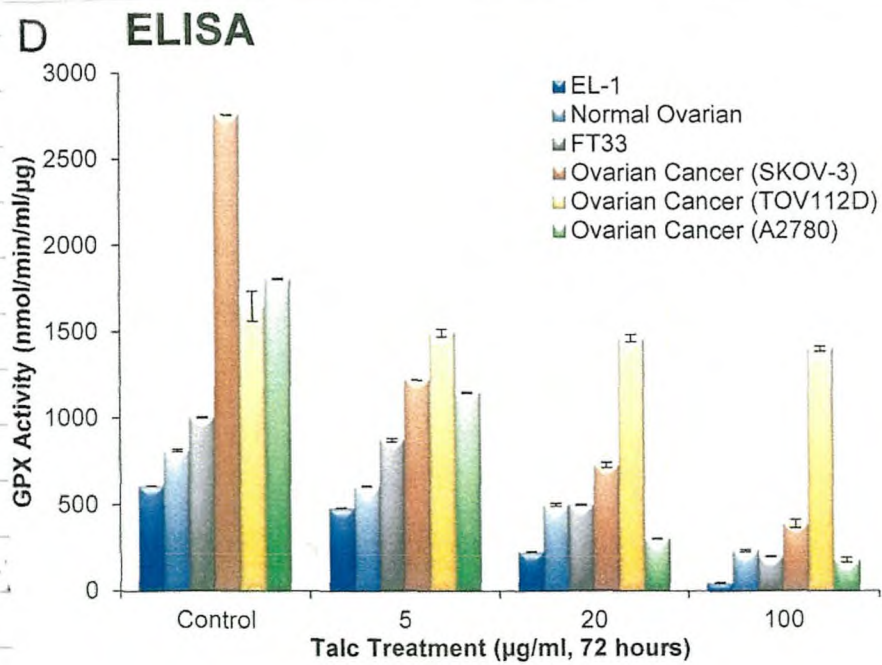
$$\text{GPx activity (nmol/min/mL)} = \frac{\Delta A_{340}/\text{min}}{0.00373 \mu\text{M}^{-1}} \times \frac{0.19 \text{ mL}}{0.02 \text{ mL}}$$

Final Volume
Sample Volume

Sample with GPx activity in range of 50.344 ~~nmol/min/mL~~ are in reproducible range
 = to activity of 0.02 to 0.135/min ↓ in absorbance

5/14/2018 Titrate GPX								
	Slope	Slope	Abs Value	Abs Value	nmol/min/m	nmol/min/m	Average	Corrected
Background	-6.665	-5.71	6.665	5.71	16975.2011	14542.8954	15759.0483	
Pos Control	-40.481667	-41.146667	40.481667	41.146667	103103.441	104797.141	103950.291	88191.243
5ug - 394	-10.506667	-10.505	10.506667	10.505	26759.6076	26755.3619	26757.4848	10998.4365
10ug - 394	-16.908333	-16.928333	16.908333	16.928333	43064.1189	43115.0572	43089.5881	27330.5398

4/14/2018																
	Slope	Slope	Slope	Abs Value	Abs Value	Abs Value	Corrected	Corrected	Corrected	nmol/min/ml	nmol/min/ml	nmol/min/ml	Average	SD	per ug	SD
Background	-6.116667	-6.276667		6.116667	6.276667		6.196667			15578.6425	15986.1492					
Positive Control	-37.756667	-37.748333		37.756667	37.748333											
Normal ovarian-C	-6.834	-6.787	-6.795	6.834	6.787	6.795	0.637333	0.590333	0.598333	1623.23418	1503.529088	1523.904424	811.9162577	64.0453807	162.38325	6.40454
Normal Ovarian-100 ug	-6.673333	-6.696667	-6.68	6.673333	6.696667	6.68	0.476666	0.5	0.483333	1214.02869	1273.458445	1231.008981	607.2560097	30.61096	121.45120	3.06110
Normal Ovarian-100 ug	-6.5898	-6.663333	-6.638333	6.5898	6.663333	6.638333	0.393133	0.486666	0.441666	1001.27708	1188.559517	1124.886595	500.8593719	95.22628	100.17187	9.52263
Normal Ovarian-100 ug	-6.381667	-6.346667	-6.341667	6.381667	6.346667	6.341667	0.185	0.15	0.145	471.179625	382.0375335	369.3029491	235.6623123	55.50877	47.13246	5.55088
Fallopian-C	-6.985	-6.961667	-6.9576	6.985	6.961667	6.9576	0.788333	0.765	0.760933	2007.81863	1948.391421	1938.03311	1004.289783	37.65835	200.85796	3.76583
Fallopian-5 ug	-6.88333	-6.8756	-6.818333	6.88333	6.8756	6.818333	0.686663	0.678933	0.621666	1748.87359	1729.185925	1583.331635	874.7476292	90.42973	174.94953	9.04297
Fallopian-20ug	-6.59	-6.576	-6.5923	6.59	6.576	6.5923	0.393333	0.379333	0.395633	1001.78646	966.1296247	1007.64437	501.0910471	22.46924	100.21821	2.24692
Fallopian-100 ug	-6.353333	-6.376667	-6.3665	6.353333	6.376667	6.3665	0.156666	0.18	0.169833	399.015282	458.4450402	432.5505362	199.5925573	29.79663	39.91851	2.97966
EL-1-C	-6.675	-6.678333	-6.6767	6.675	6.678333	6.6767	0.478333	0.481666	0.480033	1218.2744	1226.763271	1222.604155	609.3772149	4.24472	121.87544	0.42447
EL-1-5 ug	-6.575	-6.58933	-6.5946237	6.575	6.58933	6.5946237	0.378333	0.392663	0.3979567	963.582708	1000.080027	1013.562641	481.9903322	25.85804	96.39807	2.58580
EL-1-20 ug	-6.37536	-6.378333	-6.396667	6.37536	6.378333	6.396667	0.178693	0.181666	0.2	455.11622	462.6882038	509.383378	227.6581099	29.39019	45.53162	2.93902
EL-1-100 ug	-6.2334	-6.228301	-6.231667	6.2334	6.228301	6.231667	0.036733	0.031634	0.035	93.5558981	80.5691689	89.14209115	46.79544906	21.17796	9.35909	2.11780
4/23/2018																
	Slope	Slope	Slope	Abs Value	Abs Value	Abs Value	Corrected	Corrected	Corrected	nmol/min/ml	nmol/min/ml	nmol/min/ml	Average	SD	per ug	SD
Background	-4.89	-4.623333	-4.568333	4.89	4.623333	4.568333	4.595833									
Control	-23.293333	-23.921667	-24.401667	23.293333	23.921667	24.401667	18.6975	19.325834	19.805834	47620.9786	49221.29303	50443.81				
A2780-C	-5.318333	-5.293333	-5.39	5.318333	5.293333	5.39	0.7225	0.6975	0.794167	1840.14745	1776.474531	2022.68	1808.31	45.02	180.83	4.50235551
A2780-5 ug	-5.303333	-5.058333	-5.035	5.303333	5.058333	5.035	0.7075	0.4625	0.439167	1801.9437	1177.949062	1118.52	1148.24	42.02	114.62	4.202138445
A2780-20 ug	-4.718333	-4.575	-4.711667	4.718333	4.575	4.711667	0.1225	-0.020833	0.115834	311.997319	-53.05991957	295.02	303.51	12.01	15.35	1.200508073
A2780-100 ug	-4.66	-4.723333	-4.616667	4.66	4.723333	4.616667	0.064167	0.1275	0.020834	163.428016	324.7319035	53.06	180.41	136.63	18.04	13.66283167
SKOV-3-C	-5.675	-5.683333	-5.648333	5.675	5.683333	5.648333	1.079167	1.0875	1.0525	2748.54866	2769.772118	2680.63	2759.16	15.01	275.92	1.200688167
SKOV-3-5 ug	-5.073333	-5.08	-5.056667	5.073333	5.08	5.056667	0.4775	0.484167	0.460834	1216.15282	1233.13311	1173.71	1224.64	12.01	122.46	1.200688167
SKOV-3-20 ug	-4.843333	-4.846667	-4.956667	4.843333	4.846667	4.956667	0.2475	0.250834	0.360834	630.36193	638.8533512	919.01	729.41	164.26	72.94	16.42570894
SKOV-3-100 ug	-4.743333	-4.846667	-4.656667	4.743333	4.846667	4.656667	0.1475	0.250834	0.060834	375.670241	638.8533512	154.94	389.82	242.27	38.98	24.22672523
TOV-112-C	-6.65	-6.17	-6.628333	6.65	6.17	6.628333	2.054167	1.574167	2.0325	5231.79263	4009.27252	5176.61	4805.89	864.45	480.59	86.4452258
TOV112-5 ug	-5.846667	-5.956667	-5.833333	5.846667	5.956667	5.833333	1.250834	1.360834	1.2375	3185.77024	3465.931099	3151.81	3267.84	222.12	326.78	22.21174058
TOV112-20ug	-5.746667	-5.865	-5.655	5.746667	5.865	5.655	1.150834	1.269167	1.059167	2931.07855	3232.462869	2697.61	2953.72	213.11	295.37	21.31108938
TOV112-100 ug	-5.578333	-5.463333	-5.493333	5.578333	5.463333	5.493333	0.9825	0.8675	0.8975	2502.34584	2209.450402	2285.86	2332.55	153.08	233.26	15.30800873



87

5/18/2018

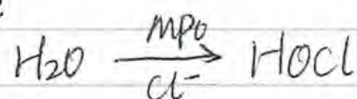
MPO ELISA

Myeloperoxidase - MPO

Northwest Life Science

Cat # NWK-MPO03

- Test principle



Test principle:

(Baseline Abs₄₁₂ is Decreased)

- HOCl is rapidly trapped by β -amino acid taurine to form the stable oxidant taurine chloramine.
- Prevents accumulation of HOCl that can deactivate MPO
- After incubation for specific time, the MPO catalyzed reaction is stopped by add catalase to eliminate hydrogen peroxide.
- Taurine chloramine is then allowed to react with TNB, a yellow complex with maximal absorbance at 412 nm.
- 1 unit of MPO activity defined the amount of enzyme that ~~can~~^{can} catalyze sufficient HOCl production resulting in formation of 1 nmol TauNHCl at pH 6.5, 25°C over 30 minutes in presence 100 mM Chloride and 100 μM H₂O₂.

Reagents: Warm Kit ~ 2 hours, room temperature

- Assay Buffer: ready to use
- H₂O₂ reagent: Mix 12 μl of solution from the Hydrogen Peroxide Vial into 498 μl Assay Buffer
 - mix + incubate 60 min at roomtemp. before use
 - must be used within 3 hours.
 - Label as working H₂O₂ solution

- Catalase reagent: Reconstitute the catalase reagent with 20 ml of Assay Buffer

- Mix and labeled.

- TNB Reagent: Add 2 ml Assay Buffer to the TNB vial.

- Mix and labeled
- Stand at room temp for at least 5 minutes before using

* Working H_2O_2 , Catalase and TNB Solution are stable for 3 hours after dilution and must be used ~~with~~ within that time

- Cells preparation:

- Cells from pg 33
- using medium.

- Assay Protocols:

- "Zero MPO Standard" is created by substituting Assay Buffer for sample. ~~ix~~

- the baseline for TNB absorbance A_{490} used later when analyzing data

1. Set temp of water bath or heating block to $25^{\circ}C$
2. Add 220 μ l assay buffer to all wells.
3. Add 20 μ l assay buffer to MPO zero standard, 20 μ l ddH₂O to Blank
4. Add 20 μ l sample per well
5. Incubate 5 min
6. Add 10 μ l working H_2O_2 to each well.
7. Incubate 30 min
8. Add 10 μ l working Catalase to each well
9. Incubate 5 min
10. Add 25 μ l working TNB to each well and 25 μ l assay buffer to Blank and mix well

11. Incubate 20 min

12. Read at 412 nm

* If absorbance is lower than 0.06, dilute and repeat.

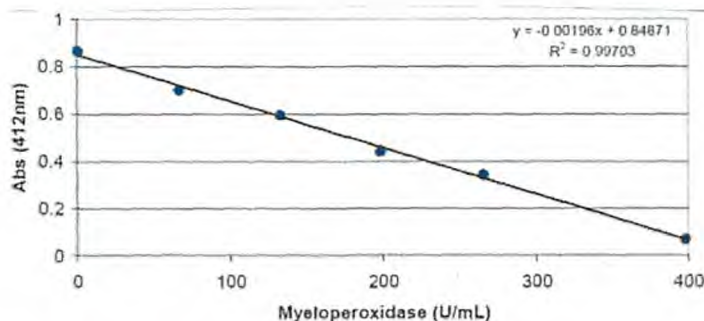
- Data Analysis

1. Calculate the average absorbance at 412 nm for zero MPO sample
2. Calculate the Average for Blank
3. Using the extinction coefficient for TNB of $14100 \text{ ml}^{-1}\text{cm}^{-1}$.
• Using formula to calculate MPO activity

$$\text{Enzyme Protocol} = \frac{(A_{\text{base}} + A_{\text{blank}} - A_{\text{sample}})}{0.0141 \times 2} \times \frac{1140}{80}$$

units MPO/ml

$$= 505.3 \times (A_{\text{base}} + A_{\text{blank}} - A_{\text{sample}})$$

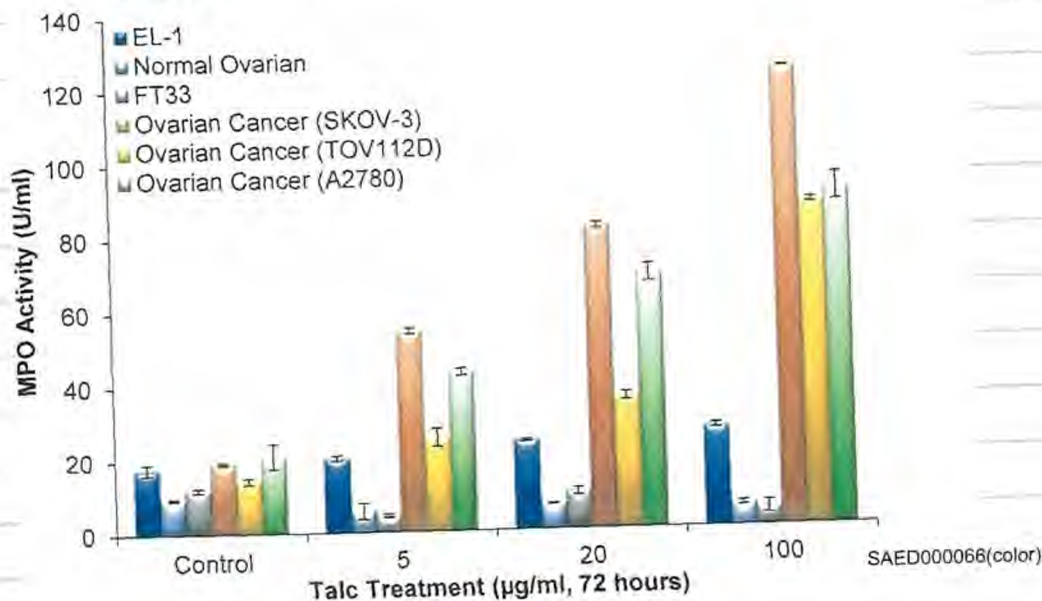


1	2	3	4	5	6	7	8	9	10	11	12
0.0952	0.145	0.223	0.4322	0.4591	0.4369	0.1274	0.1303	0.1224	0.1313	0.1237	0.1207
0.3796	0.3741	0.3151	0.143	0.1267	0.1285	0.1351	0.1559	0.124	0.1253	0.1215	0.1382
0.3701	0.3678	0.4214	0.1254	0.127	0.1243	0.1347	0.1504	0.1304	0.121	0.1275	0.1269
0.4123	0.4128	0.415	0.1395	0.1218	0.1296	0.1243	0.1243	0.1302	0.1331	0.1288	0.1304
0.4279	0.4102	0.4248	0.138	0.1352	0.1449	0.1311	0.1346	0.132	0.1432	0.1483	0.1582
0.4207	0.4258	0.4376	0.137	0.1416	0.1292	0.1301	0.1268	0.134	0.1265	0.1307	0.1287
0.46	0.4589	0.5677	0.1232	0.1293	0.1363	0.134	0.1424	0.1287	0.1463	0.1403	0.1294
0.3904	0.3683	0.3882	0.123	0.1396	0.1211	0.1218	0.1273	0.1237	0.1617	0.1179	0.1178

5/18/2018									
used 5 ug protein				extinction coefficient = 14,100/m*cm					
	OD1	OD2	OD3	Avg Abs	Units MPO/ml	Units MPO/ml	Units MPO/ml	Average	St Dev
MPO BLANK	0.0952	0.145	0.223	0.1201					
MPO zero standard	0.1796	0.1741	0.1151	0.17685					
TOV-112-C	0.2701	0.2678	0.244		13.567305	14.729495	26.755635	14.1484	0.8217924
TOV112-5 ug	0.2523	0.2428	0.245		22.561645	27.361995	26.250335	25.391325	2.5128199
TOV112-20ug	0.2279	0.2102	0.2248		34.890965	43.834775	36.457395	35.67418	1.1076333
TOV112-100 ug	0.1207	0.1258	0.1376		89.059125	86.482095	80.519555	87.77061	1.8222354
SKOV-3-C	0.26	0.2589	0.2677		18.670835	19.226665	14.780025	18.94875	0.3930312
SKOV-3-5 ug	0.1904	0.2083	0.1882		53.839715	44.794845	54.951375	54.395545	0.7860623
SKOV-3-20 ug	0.1322	0.1591	0.1369		83.248175	69.655605	80.873265	82.06072	1.679315
SKOV-3-100 ug	0.0512	0.0512	0.061		124.177475	124.177475	119.225535	121.70151	3.5015504
A2780-C	0.2449	0.2673	0.2544		26.300865	14.982145	21.500515	20.927842	3.39436
A2780-5 ug	0.2007	0.21	0.2133		48.635125	43.935835	42.268345	45.451735	4.5019933
A2780-20 ug	0.157	0.1567	0.1633		70.716735	70.868325	67.533345	69.12504	1.8832172
A2780-100 ug	0.1087	0.1167	0.1233		95.122725	91.080325	87.745345	91.434035	3.6943386
EL-1-C	0.1105	0.1542	0.1334		94.213185	72.131575	82.641815	88.4275	11.045054
EL-1-5 ug	0.0972	0.0872	0.0968		100.933675	105.986675	101.135795	101.03474	2.8607895
EL-1-20 ug	0.0532	0.0566	0.0611		123.166875	121.448855	119.175005	121.17094	2.0023741
EL-1-100 ug	0.0234	0.0219	0.0311		138.224815	138.982765	134.334005	136.27941	2.4941218

5/19/2018									
used 5 ug protein				extinction coefficient = 14,100/m*cm					
	OD1	OD2	OD3	Avg Abs	Units MPO/ml	Units MPO/ml	Units MPO/ml	Average	St Dev
MPO BLANK	0.0495	0.0528	0.0628	0.0550333					
MPO zero standard	0.027	0.0289	0.02059	0.0254967					
Normal ovarian-C	0.0624	0.0614	0.0619		9.161089	9.666389	9.413739	9.413739	0.25265
Normal Ovarian-Talc 5 ug	0.0734	0.0649	0.069		3.602789	7.897839	5.826109	5.775579	2.1479708
Normal ovarian-Talc 20 ug	0.067	0.0668	0.0675		6.836709	6.937769	6.584059	6.786179	0.1821885
Normal Ovarian-100 ug	0.075	0.0698	0.0681		2.794309	5.421869	6.280879	5.851374	0.6074118
Fallopian-C	0.056	0.0577	0.0575		12.395009	11.535999	11.637059	11.856022	0.4695032
Fallopian-5 ug	0.0696	0.0734	0.0724		5.522929	3.602789	4.108089	4.411269	0.9953256
Fallopian-20ug	0.0546	0.06127	0.0661		13.102429	9.732078	7.291479	10.041995	2.9178454
Fallopian-100 ug	0.0661	0.07128	0.0751		7.291479	4.674025	2.743779	4.9030943	2.2824873

ELISA



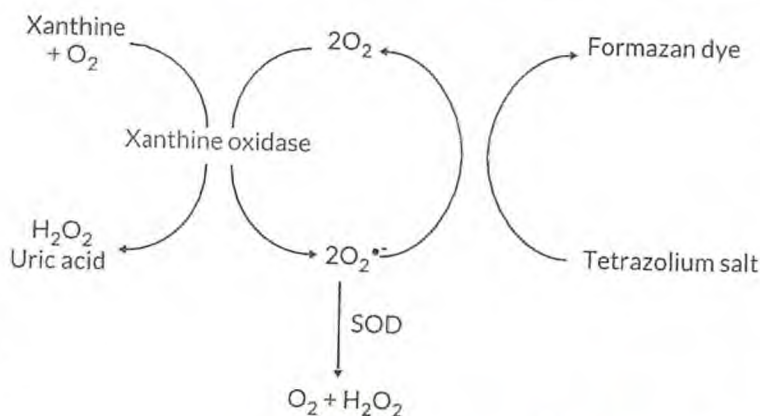
6/19/2018 Superoxide Dismutase Assay Kit

Caymanchem. Cat #706002

Superoxide dismutases (SODs)



- This kit utilizes a tetrazolium salt for detection of superoxide radicals generated by xanthine oxidase and hypoxanthine



Scheme of Superoxide Dismutase Assay

- The SOD assay measures all three types of SOD (Cu/Zn, Mn, and FeSOD)
- One unit of SOD is defined as amount of enzyme needed to exhibit 50% dismutation of the superoxide radical.

Reagent Preparation

— Assay Buffer (10X)

- Dilute 3 ml of Assay Buffer with 27 ml of HPLC-grade water. (1X)
- Store at 4°C. Stable for 2 months.

— Sample Buffer (10X)

- Dilute 2 ml of Sample Buffer with 18 ml of HPLC-water (1X, 50 mM Tris-HCl)
- Store at 4°C stable for 6 months

- Radical Detector

- 250 μ l of tetrazolium salt solution
- Prior to use, 50 μ l of solution + 19.95ml diluted Assay Buffer.
- * Cover with tin foil
- Stable for 2 months. enough for 96 well
- Store unused at -20°C

- SOD Standard

- Contain 100 μ l of bovine erythrocyte SOD (Cu/Zn)
- Store the thawed enzyme on ice
- store at -20°C, stable two freeze/thaw cycles.

- Xanthine Oxidase

- Contain 150 μ l of Xanthine Oxidase.
- Prior to use, thaw one vial and transfer 50 μ l of supplied enzyme with 1.95ml of diluted ~~of~~ sample Buffer
- This diluted enzyme is stable for one hour
- * Do not refreeze the thawed enzyme

Sample preparation

- Cell lysate see pg 53
- Collect cells by centrifugation at 1000-2000g, 10 min. 4°C
- * For adherent cells, use a rubber policeman.
- Homogenize or sonicate the cell pellet in cold 20mM Hepes.
- Centrifuge at 1500xg, 5 min. 4°C
- Remove the supernatant for assay and store on ice
- freeze sample at -80°C
- Stable for two months.

Assay protocol

- Plate Set up (as following sheet)

	1	2	3	4	5	6	7	8	9	10	11	12
A	A	368				364			379			
B	B	369				365			380			
C	C	370				366			381			
D	D	371				367			382			
E	E	360				383			350			
F	F	361				384			357			
G	G	362				385			358			
H			363			386			359			

Standard

Sample plate format

A-G : Standards

- * Final volume is 230ul / well
- * Assay temperature is 25°C
- * Read at 440 ~ 460 nm.

- Standard Preparation

- Dilute 20ul of SOD standard with 1.98 ml Sample buffer (dilute)
- Take 7 clean glass test tubes and mark A-G
- Add amount of SOD stock and Sample Buffer to each tubes, as below

Tube	SOD Stock (μl)	Sample Buffer (μl)	Final SOD Activity (U/ml) in Well
A	0	1,000	0
B	20	980	0.005
C	40	960	0.010
D	80	920	0.020
E	120	880	0.030
F	160	840	0.040
G	200	800	0.050

Table 1. Superoxide Dismutase standards

Performing the Assay

1. SOD Standard Wells
 - add 200 μ l of diluted Radical Detector and 10 μ l of standard
2. Sample wells
 - add 200 μ l of the diluted Radical Detector and 10 μ l of samples
3. Initiate the reactions by adding 20 μ l of diluted Xanthine Oxidase to all the wells.
 - * Make sure to note the precise time you started
 - * Add Xanthine Oxidase as quickly as possible
4. Carefully shaker for 30 minutes at room temp
5. Read at 440 ~ 460 nm

Calculation

- Calculate the average absorbance of each standard and sample
- Divide standard A's absorbance by itself and divide standard A's absorbance by all the other standards and samples absorbances to yield the Linearized Rate
- Plot the Linearized SOD ~~acti~~ standard rate as function of final SOD Activity (U/ml)
- Calculate the SOD activity of the samples using the equation obtained from the linear regression of standard curve substituting the Linearized rate for each sample

$$\text{SOD (U/ml)} = \left[\left(\frac{\text{sample LR} - \text{y-intercept}}{\text{slope}} \right) \times \frac{0.23 \text{ ml}}{0.01 \text{ ml}} \right] \times \text{sample dilution}$$

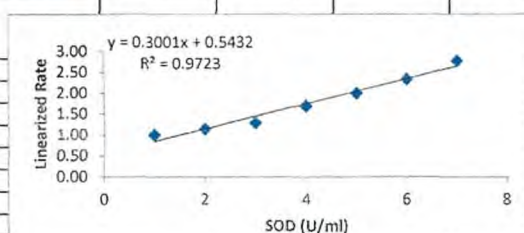
NOTE: 0.23/0.01 is a factor for converting from U/ml in well to U/ml in 10 μ l added to 230 μ l well volume

X. The dynamic range of kit is 0.005 - 0.050 units/ml SOD

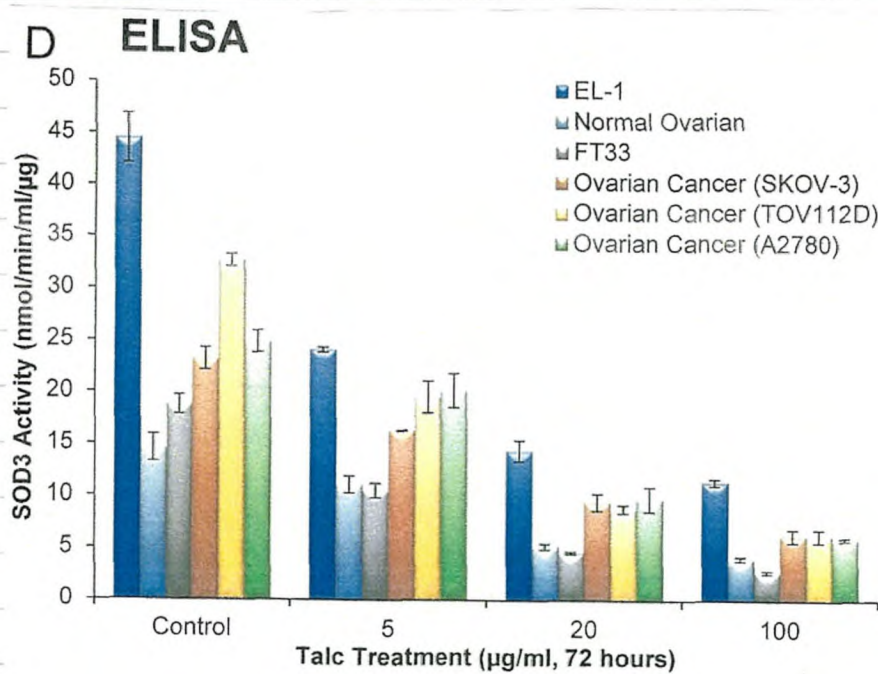
- One unit is defined as the amount of enzyme needed to exhibit 50% dismutation of the superoxide radical. ~~SOD~~

Standard Curve

SOD Activity (U/ml)	Standard	Raw 1	Raw 2	Average	Linearized rate (LR)
0	A	0.4759	0.4618	0.46885	1.00
0.025	B	0.4385	0.3845	0.4115	1.14
0.05	C	0.3786	0.353	0.3658	1.28
0.1	D	0.2872	0.2671	0.2772	1.69
0.15	E	0.2373	0.2336	0.2355	1.99
0.2	F	0.203	0.1988	0.2009	2.33
0.25	G	0.1747	0.164	0.1694	2.77



0.7 ug Protein												
6/19/2013		OD 1	OD 2	OD 3	LR 1	LR 2	LR 3	U/ml	U/ml	U/ml	Average	SD
BLANK		0.3138	0.3167	0.3187								
A2780-C		0.0405	0.0533	0.0562	11.576543	8.796435	8.342527	34.709321	25.615603	24.13087	24.87	1.05
A2780-5 ug		0.0744	0.0669	0.0582	6.301747	7.008221	8.055842	17.455491	19.766364	23.193126	20.14	2.89
A2780-20 ug		0.1022	0.1235	0.1426	4.587573	3.796356	3.287868	11.848437	9.2603704	7.5971084	9.72	1.83
A2780-100 ug		0.1722	0.1688	0.1685	2.722706	2.777547	2.782493	5.7484664	5.9278518	5.9440275	5.94	0.14
SKOV-3-C		0.0498	0.0600	0.0566	9.414659	7.814167	8.283569	27.637808	22.402607	23.93802	23.17	1.09
SKOV-3-5 ug		0.0786	0.0678	0.0790	5.965013	6.915192	5.934810	16.354034	19.462065	16.255242	16.30	0.07
SKOV-3-20 ug		0.1036	0.1165	0.1276	4.525579	4.024464	3.674373	11.645655	10.006508	8.8613639	9.43	0.81
SKOV-3-100 ug		0.1651	0.1556	0.1711	2.8397941	3.0131748	2.7402104	6.1314604	6.6985879	5.8057227	6.25	0.63
TOV-112-C		0.0433	0.0359	0.0433	10.827945	13.059889	10.827945	32.260659	39.561336	32.260659	35.91	5.16
TOV112-5 ug		0.0683	0.0611	0.0757	6.8645681	7.6734861	6.1935271	19.296475	21.942442	17.101504	19.52	3.42
TOV112- 20ug		0.1143	0.1253	0.1311	4.1019248	3.7418196	3.5762777	10.259883	9.0819813	8.5404943	8.81	0.38
TOV112-100 ug		0.1654	0.1559	0.1711	2.8346433	3.0073765	2.7402104	6.1146122	6.6796217	5.8057227	6.24	0.62
Normal ovarian-C		0.0855	0.0954	0.0789	5.4836257	4.9145702	5.9423321	14.77942	12.918042	16.279846	14.60	2.38
Normal Ovarian-Talc 5 ug		0.1130	0.1035	0.1120	4.149115	4.5299517	4.1861607	10.414242	11.659957	10.535419	11.10	0.80
Normal ovarian- Talc 20 ug		0.1774	0.1792	0.1883	2.6428974	2.6163504	2.4899097	5.4874124	5.4005774	4.9869905	5.19	0.29
Normal Ovarian-100 ug		0.2003	0.2100	0.2187	2.3407389	2.232619	2.1438043	4.4990535	4.145394	3.8548814	4.00	0.21
Fallopian-C		0.0773	0.0679	0.0722	6.0653299	6.9050074	6.492868	16.682171	19.428752	18.080646	18.75	0.95
Fallopian-5 ug		0.1156	0.1162	0.1083	4.0557958	4.0348537	4.3291782	10.108996	10.040494	11.003228	10.52	0.68
Fallopian-20ug		0.1896	0.1964	0.2005	2.4728376	2.38722	2.338404	4.9311475	4.6510928	4.491416	4.57	0.11
Fallopian-100 ug		0.2451	0.2561	0.2650	1.9128927	1.8307302	1.7692453	3.0995708	2.8308176	2.6297008	2.73	0.14
EL-1-C		0.0334	0.0411	0.0268	14.037425	11.407543	17.494403	42.758854	34.156521	54.06661	44.11	14.08
EL-1-5 ug		0.0567	0.0765	0.0567	8.2689594	6.1287582	8.2689594	23.890232	16.889645	23.890232	20.39	4.95
EL-1-20 ug		0.0886	0.0841	0.0912	5.2917607	5.5749108	5.1408991	14.151831	15.078013	13.658363	14.37	1.00
EL-1-100 ug		0.1005	0.1042	0.1076	4.6651741	4.4995202	4.357342	12.102269	11.560416	11.095352	11.33	0.33



6/21/2018

Caspase-3 Colorimetric Assay

R&D systems, Cat# BF3100

Reagents provided & storage conditions

REAGENT	DESCRIPTION	STORAGE OF OPENED MATERIAL
DEVD-pNA Substrate	500 μ L of 4 mM DEVD substrate peptide conjugated to p-nitroaniline (protect from light).	Store at $\leq -20^{\circ}\text{C}$ for up to 6 months after initial use. Avoid repeated freeze-thaw cycles.
DTT	400 μ L of a 1 M solution of dithiothreitol (DTT).	
Lysis Buffer	100 mL of Lysis Buffer.	May be stored for up to 6 months at $2-8^{\circ}\text{C}$.
Reaction Buffer 3	4 vials (2.0 mL/vial) of 2X Reaction Buffer 3.	
Dilution Buffer	100 mL of Dilution Buffer.	

* Store the unopened kit at -20°C in a manual defrost freezer

- This kit use to determine the increased enzymatic activity of Caspase-3 class of proteases in apoptotic cells by colorimetric reaction.
- Caspase-3 known as CPP-32, Yama or Apopain, is an intracellular cysteine protease that exists as a proenzyme, becoming activated during the cascade of events associated with apoptosis.
- The presence of caspase-3 in cells of different lineages suggests that caspase-3 is a key enzyme required for the execution of apoptosis.
- The cleavage of peptide by the caspase releases the chromophore pNA, which can be quantitated spectrophotometrically at wavelength of 405 nm.
- The level of caspase enzymatic activity in the cell lysate is directly proportional to the color reaction.

Sample preparation:

1. Collect cells, 250×9 , 10 minutes
 - Add 25 mL of cold Lysis Buffer per 1×10^6 cells.
 - Seed 10^6 cells per dish

2. The cell lysate is incubated on ice for 10 minutes
 - centrifuged at $10000 \times g$ for 1 minute.
 - Transfer the supernate to a new tube and on ice
3. The enzymatic reaction for caspase activity is best carried out in a 96 well flat bottom microplate
4. Each reaction requires 50 μ l of cell lysate.
5. Each reaction also requires 50 μ l of 2X Reaction Buffer 3.
 - Prior to using the 2X Reaction Buffer 3
 - Add 10 μ l of fresh DTI stock per 1ml of 2X Reaction 3
6. To each reaction well add 5 μ l of caspase-3 colorimetric substrate
7. ~~Incubate~~ Incubate the plate 37°C , 1~2 hours.
8. Read the plate on a microplate reader using a wavelength of 405nm
9. Additional control that should be included in this assay
 - no cell lysate and no substrate.
 - The total reaction volume must be kept constant and therefore distilled can be used to replace the volume by cell lysate.
10. For comparative analysis, the above assay should be repeated with non-induced cells.

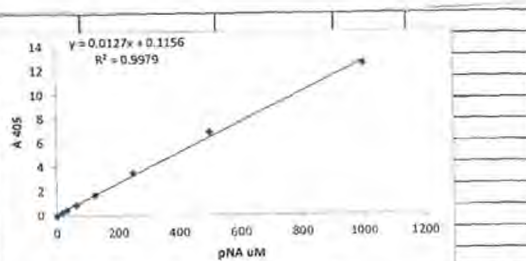
Standard : Dilute in 1X Assay Buffer

- 1:2 dilution series 120 μ l of standard + 120 μ l buffer

S1	1mM	S5	62.5 μ M
S2	500 μ M	S6	31.3 μ M
S3	250 μ M	S7	15.6 μ M
S4	125 μ M	S8	1 μ M

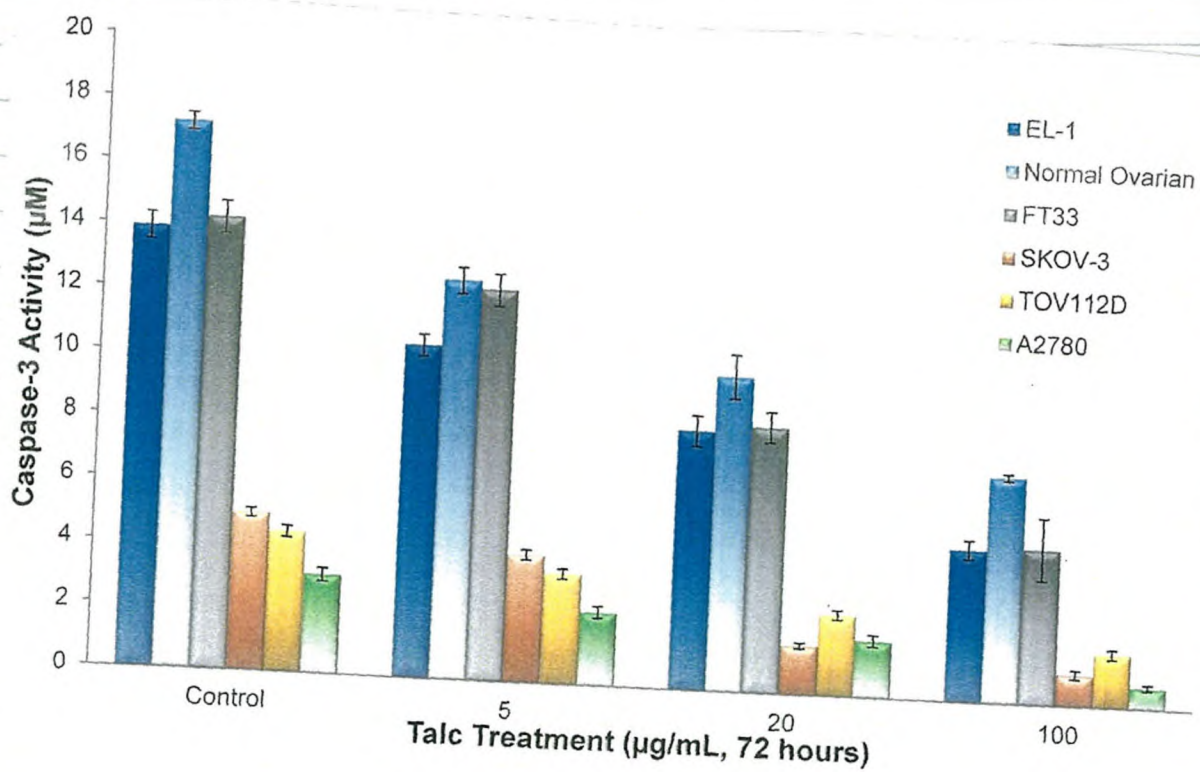
	1	2	3	4	5	6	7	8	9	10	11	12
A	A	1	368	1	364	1	377	1				
B	B	1	369	1	365	1	380	1				
C	C	1	370	1	366	1	381	1				
D	D	1	371	1	367	1	382	1				
E	E	1	360	1	383	1	356	1				
F	F	1	364	1	384	1	357	1				
G	G	1	362	1	385	1	358	1				
H			363	1	386	1	359	1				

Standard	Raw1	Raw2	Raw3	Ave. Abs.	[Csp3-3] (uM)
1	0	0	0	0	0
2	0.203	0.137	0.208	0.206	15.625
3	0.419	0.433	0.487	0.446	31.25
4	0.844	0.848	0.891	0.861	62.5
5	1.642	1.671	1.714	1.676	125
6	3.455	3.512	3.497	3.488	250
7	6.716	6.778	7.063	6.852	500
8	12.503	12.604	18.265	12.554	1000
$y = 0.0127x + 0.1156$					



Protein

Caspase-3 assay									
100 ug protein									
Sample	Raw1	Raw2	Raw3	Average	[Csp3-3]-1	[Csp3-3]-2	[Csp3-3]-3	[Csp3-3] (uM)	SE
A2780-C	0.198	0.192	0.189	0.194	6.488	6.016	5.780	3.105	0.361
A2780-5 ug	0.177	0.172	0.169	0.173	4.835	4.441	4.205	2.307	0.318
A2780-20 ug	0.155	0.159	0.151	0.153	3.102	3.417	2.787	1.785	0.315
A2780-100 ug	0.132	0.131	0.135	0.134	1.291	1.213	1.528	0.673	0.164
SKOV-3-C	0.233	0.239	0.237	0.235	9.244	9.717	9.559	4.976	0.241
SKOV-3-5 ug	0.211	0.215	0.218	0.215	7.512	7.827	8.063	4.021	0.277
SKOV-3-20 ug	0.155	0.153	0.157	0.156	3.102	2.945	3.260	1.550	0.157
SKOV-3-100 ug	0.133	0.139	0.137	0.135	1.370	1.843	1.685	0.989	0.241
TOV-112-C	0.220	0.225	0.228	0.224	8.220	8.614	8.850	4.419	0.318
TOV112-5 ug	0.198	0.201	0.194	0.196	6.488	6.724	6.173	3.460	0.277
TOV112-20ug	0.177	0.178	0.183	0.180	4.850	4.921	5.315	2.551	0.250
TOV112-100 ug	0.155	0.156	0.150	0.152	3.110	3.197	2.685	1.675	0.274
Normal ovarian-C	0.551	0.546	0.558	0.555	34.283	33.890	34.835	17.222	0.475
Normal Ovarian-Talc 5 ug	0.435	0.429	0.447	0.441	25.150	24.677	26.094	12.559	0.722
Normal ovarian- Talc 20 ug	0.333	0.363	0.344	0.339	17.118	19.480	17.984	9.909	1.195
Normal Ovarian-100 ug	0.288	0.292	0.288	0.288	13.583	13.913	13.567	7.101	0.196
Falloplan-C	0.488	0.471	0.492	0.490	29.323	27.984	29.638	14.237	0.878
Falloplan-5 ug	0.411	0.423	0.401	0.406	23.260	24.213	22.472	12.309	0.871
Falloplan-20ug	0.312	0.324	0.333	0.323	15.472	16.417	17.118	8.370	0.826
Falloplan-100 ug	0.254	0.237	0.211	0.219	10.898	9.535	7.512	4.877	1.704
EL-1-C	0.445	0.463	0.449	0.447	25.937	27.354	26.252	13.901	0.744
EL-1-5 ug	0.389	0.377	0.391	0.390	21.528	20.583	21.685	10.486	0.596
EL-1-20 ug	0.311	0.319	0.298	0.305	15.386	16.016	14.362	8.160	0.835
EL-1-100 ug	0.221	0.234	0.228	0.225	8.299	9.323	8.850	4.774	0.512



6/29/2018

SNP Genotyping Assay

(Applied Biosystems, Carlsbad, CA)

SNP

- SNP to be examined in cell pellets
- DNA was isolated utilizing the EZ1 DNA Tissue kit (Qiagen) for EOC cells according the manufacturer's protocols
- The TaqMan SNP Genotyping Assay set were used to genotype the SNP.

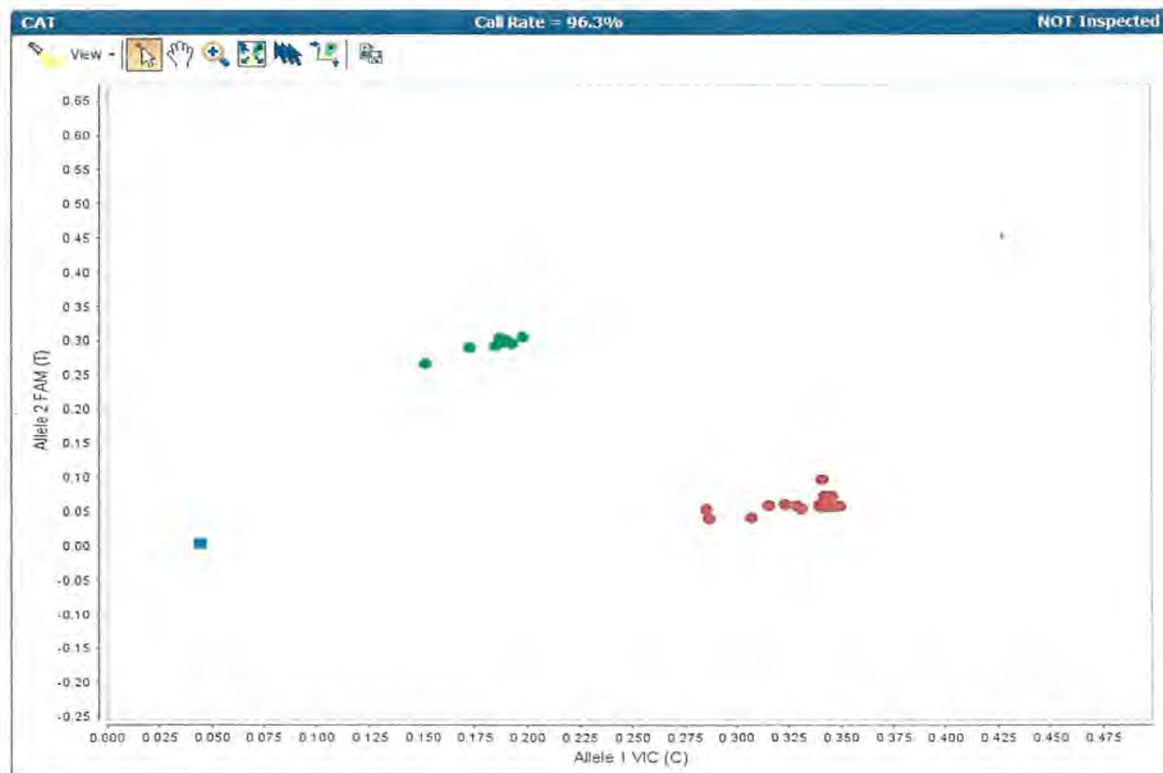
A	Gene (rs number)				
	CAT (rs769217)	NOS2 (rs2297518)	GSR (rs8190955)	GPX1 (rs3448)	SOD3 (rs2536512)
MAF	0.123	0.173	0.191	0.176	0.476
SNP	C-262T	C2087T	G201T	C-1040T	A377T
Chromosome Location	11p13	17q11.2	8p12	3q21.31	4p15.2
Amino Acid Switch	Isoleucine to Threonine	Serine to Leucine	Unknown	Unknown	Alanine to threonine
Effect on Activity	Decrease	Increase	Unknown	Unknown	Decrease

- The TaqMan SNP Genotyping Assay Set were used to genotype the SNPs.
 - NCBI dsSNP genome Technology (ex build 37), MAF source 1000 genomes
- The Applied Genomics Technology Center performed these assay.
 - AGTC, Wayne State University, Detroit, MI
- Analysis was done utilizing the QuanStudio™ 12K Flex Real-time PCR System.

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 # Export Date : 07/11/2018 14:11:18 EDT
 # Study Name : Untitled
 # Experiment Type : Endpoint
 # Instrument Type : QuantStudio™ 12K Flex Real-Time PCR System
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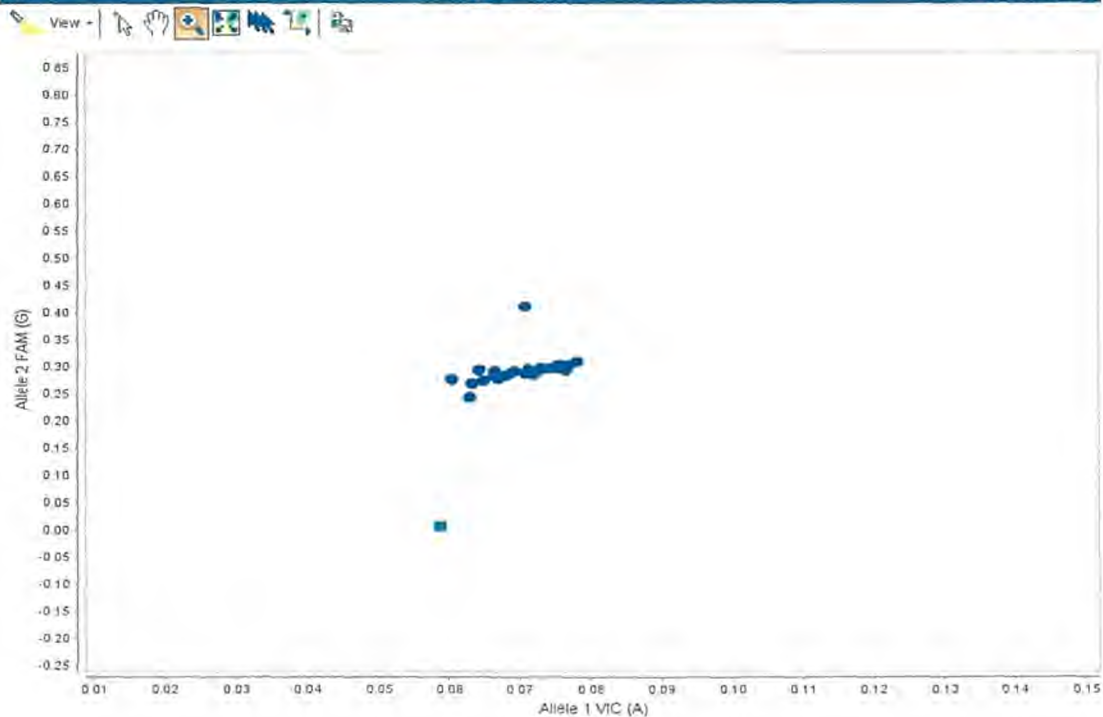
Assay ID	Assay Name	Population	Allele 1 Freq	Allele 2 Freq	1/1 Freq	1/2 Freq	2/2 Freq	Chi-Squared	P-Value
5	SNP Assay SOD3	All	0%	0%	0%	0%	0%	0	1
4	SNP Assay NOS2	All	31.50%	68.50%	14.80%	33.30%	51.90%	1.396	0.237
3	SNP Assay GPX1	All	100%	0%	100%	0%	0%	0	1
2	SNP Assay GSR	All	0%	100%	0%	0%	100%	0	1
1	SNP Assay CAT	All	84.60%	15.40%	69.20%	30.80%	0%	0.86	0.354
	SNP Assay CYBA	All	41.70%	58.30%	12.50%	58.30%	29.20%	0.96	0.327

Assay Name	Assay ID	NCBI SNP Ref.	Sample ID	Call	Allele1 (C) Amp Score	Allele2 (T) Amp Score	Well	Experiment Name
CAT	SNP Assay 5	rs769217	A2780-C	C/C	0.859261	0.000000	I01	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	SKOV-C	C/C	0.868249	0.000000	I03	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	TOV112-C	C/C	0.867341	0.000000	I05	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	HOSPIC-C	C/C	0.875622	0.000000	I07	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	FT33-C	C/C	0.871144	0.000000	I09	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	NOC-C	C/C	0.876471	0.000000	I11	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	A2780-T	C/C	0.877593	0.000000	I13	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	SKOV-T	C/C	0.872718	0.000000	I15	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	TOV112-T	C/T	0.658010	0.869565	I17	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	HOSPIC-T	C/T	0.655459	0.868229	I19	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	FT33-T	C/T	0.650990	0.864536	I21	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	NOC-T	C/T	0.612055	0.850921	I23	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	A2780-C	C/C	0.841331	0.000000	I02	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	SKOV-C	C/C	0.860892	0.000000	I04	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	TOV112-C	C/C	0.876584	0.000000	I06	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	HOSPIC-C	C/C	0.874654	0.000000	I08	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	FT33-C	C/C	0.877596	0.000000	I10	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	NOC-C	C/C	0.874607	0.000000	I12	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	A2780-T	C/C	0.867310	0.000000	I14	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	SKOV-T	C/C	0.871008	0.000000	I16	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	TOV112-T	C/T	0.656320	0.877184	I18	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	HOSPIC-T	C/T	0.649022	0.863312	I20	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	FT33-T	C/T	0.648668	0.867816	I22	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	NOC-T	C/T	0.629139	0.864298	I24	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	CEPH	C/C	0.838256	0.000000	N04	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	NTC	N/A	0.000000	0.000000	N06	2018-07-11_GS-997.eds
CAT	SNP Assay 5	rs769217	SJL	C/C	0.835160	0.000000	N02	2018-07-11_GS-997.eds

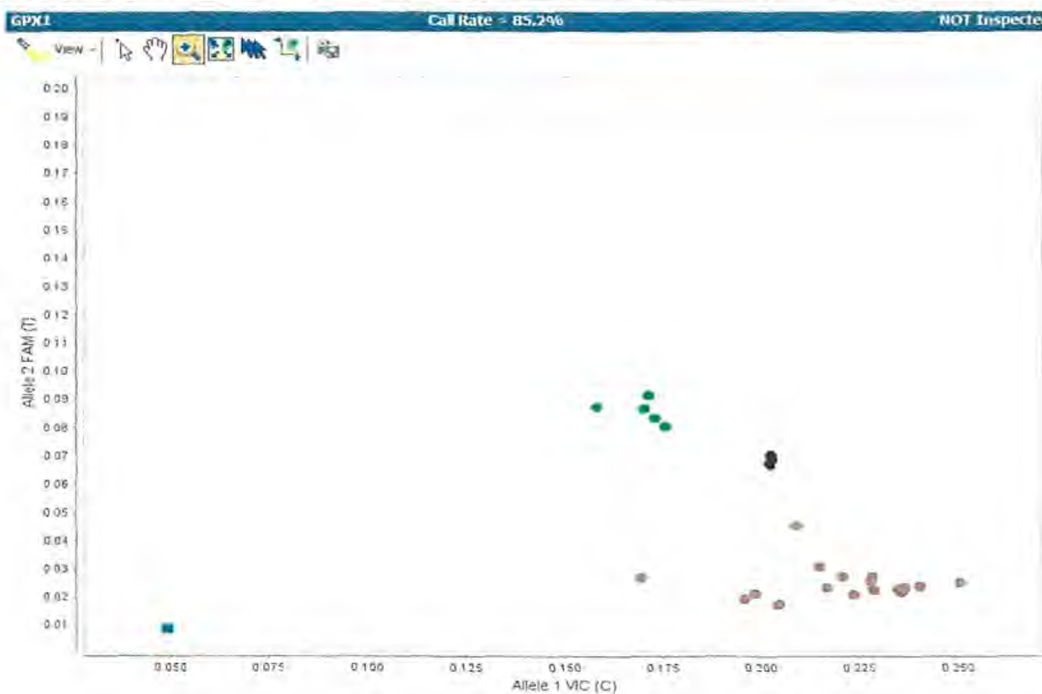


Assay Name	Assay ID	NCBI SNP Ref.	Sample ID	Call	Allele1 (A) Amp Score	Allele2 (G) Amp Score	Well	Experiment Name
GSR	C_25472285_20	rs8190955	A2780-C	G/G	0.000000	0.893638	G01	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	SKOV-C	G/G	0.000000	0.897784	G03	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	TOV112-C	G/G	0.000000	0.900424	G05	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	HOSPIC-C	G/G	0.000000	0.903515	G07	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	FT33-C	G/G	0.000000	0.899146	G09	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	NOC-C	G/G	0.000000	0.903931	G11	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	A2780-T	G/G	0.000000	0.907440	G13	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	SKOV-T	G/G	0.000000	0.904642	G15	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	TOV112-T	G/G	0.000000	0.903133	G17	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	HOSPIC-T	G/G	0.000000	0.898479	G19	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	FT33-T	G/G	0.000000	0.889356	G21	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	NOC-T	G/G	0.000000	0.865288	G23	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	A2780-C	G/G	0.000000	0.777331	H01	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	SKOV-C	G/G	0.000000	0.890199	G02	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	TOV112-C	G/G	0.000000	0.894693	G04	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	HOSPIC-C	G/G	0.000000	0.907142	G06	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	FT33-C	G/G	0.000000	0.910245	G08	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	NOC-C	G/G	0.000000	0.906755	G10	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	A2780-T	G/G	0.000000	0.905957	G12	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	SKOV-T	G/G	0.000000	0.898448	G14	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	TOV112-T	G/G	0.000000	0.900353	G16	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	HOSPIC-T	G/G	0.000000	0.900184	G18	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	FT33-T	G/G	0.000000	0.600299	G20	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	NOC-T	G/G	0.000000	0.889474	G22	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	NOC-T	G/G	0.000000	0.888737	G24	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	CEPH	G/G	0.000000	0.891366	M04	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	NTC	N/A	0.000000	0.000000	M06	2018-07-11_GS-997.eds
GSR	C_25472285_20	rs8190955	SJL	G/G	0.000000	0.894044	M02	2018-07-11_GS-997.eds

GSR Call Rate = 100% NOT Inspected

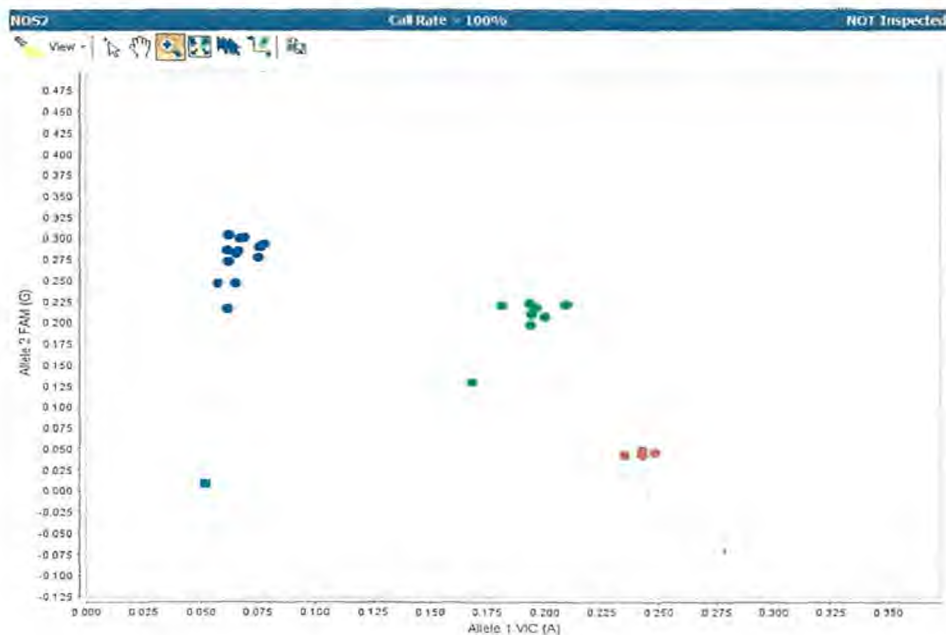


Assay Name	Assay ID	NCBI SNP Ref.	Sample ID	Call	Allele1 (C) Amp Score	Allele2 (T) Amp Score	Experiment Name
GPX1	C_8762057_10	rs3448	A2780-T	C/C	0.712653	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	SKOV-T	C/C	0.705939	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	FT33-T	C/C	0.732661	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	NOC-T	C/C	0.741459	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	A2780-C	UND	0.673660	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	SKOV-C	UND	0.671252	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	FT33-C	UND	0.659262	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	NOC-C	UND	0.672411	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	A2780-T	C/C	0.730852	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	SKOV-T	C/C	0.724943	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	FT33-T	C/C	0.717511	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	NOC-T	C/C	0.701899	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	EL-1	C/C	0.607089	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	A2780-C	C/T	0.626308	0.543334	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	SKOV-C	C/T	0.621549	0.554203	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	FT33-C	C/T	0.603927	0.530074	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	NOC-C	C/T	0.608042	0.532584	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	A2780-T	C/C	0.730550	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	SKOV-T	C/C	0.651890	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	FT33-T	C/C	0.744586	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	NOC-T	C/C	0.727160	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	A2780-T	C/C	0.731175	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	SKOV-T	C/C	0.714878	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	FT33-T	C/C	0.724256	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	NOC-T	C/C	0.685770	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	CEPH	C/T	0.592382	0.526196	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	NTC	N/A	0.000000	0.000000	2018-07-11_GS-997.eds
GPX1	C_8762057_10	rs3448	SJL	C/C	0.701809	0.000000	2018-07-11_GS-997.eds



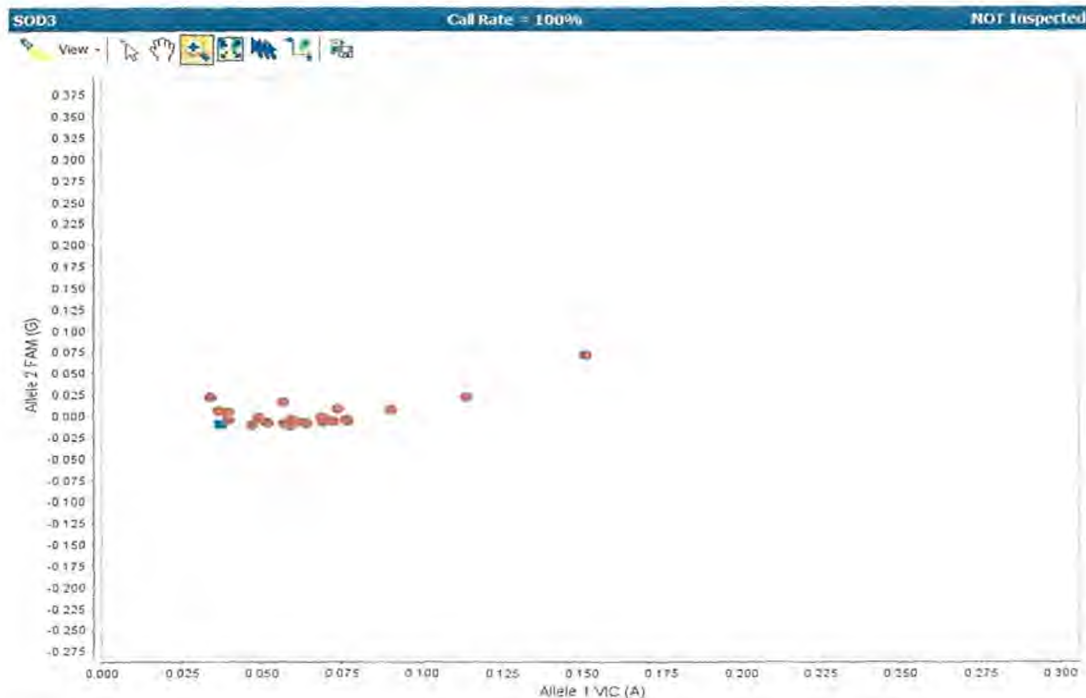
3

Assay Name	Assay ID	NCBI SNP Ref.	Sample ID	Call	Allele1 (A) Amp Score	Allele2 (G) Amp Score	Well	Experiment Name
NOS2	C_11889257_10	rs2297518	A2780-C	G/G	0	0.878929	C01	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	TOV112-C	G/G	0	0.873627	C03	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	SKOV-C	G/G	0	0.869711	C05	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	HOSPIC-C	G/G	0	0.794009	C07	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	FT33-C	G/G	0	0.88025	C09	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	NOC-C	G/G	0	0.881837	C11	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	A2780-C	G/G	0	0.877297	C13	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	TOV112-C	G/G	0	0.866705	C15	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	SKOV-C	G/G	0	0.879188	C17	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	HOSPIC-C	G/G	0	0.881639	C19	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	FT33-C	G/G	0	0.870062	C21	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	NOC-C	G/G	0	0.818528	C23	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	A2780-T	G/G	0	0.740608	D01	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	TOV112-T	A/G	0.685417	0.770813	C02	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	SKOV-T	A/G	0.700276	0.780029	C04	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	HOSPIC-T	A/G	0.604773	0.599274	C06	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	FT33-T	A/G	0.696461	0.764702	C08	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	NOC-T	A/G	0.685289	0.770144	C10	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	A2780-T	A/G	0.700586	0.782077	C12	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	TOV112-T	A/G	0.709069	0.779647	C14	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	SKOV-T	A/G	0.691319	0.789883	C16	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	HOSPIC-T	A/A	0.782495	0	C18	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	FT33-T	A/A	0.78802	0	C20	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	NOC-T	A/A	0.790621	0	C22	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	NOC-T	A/A	0.778243	0	C24	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	CEPH	G/G	0.000000	0.870160	N03	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	NTC	N/A	0.000000	0.000000	N05	2018-07-11_GS-997.eds
NOS2	C_11889257_10	rs2297518	SIJL	A/G	0.666694	0.761451	N01	2018-07-11_GS-997.eds



4

Assay Name	Assay ID	NCBI SNP Ref.	Sample ID	Call	Allele1 (A) Amp Score	Allele2 (G) Amp Score	Experiment Name
SOD3	C_2668728_10	rs2536512	A2780-C	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	TOV112-C	A/A	0.605730	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	SKOV-C	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	HOSPIC-C	A/A	0.532156	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	FT33-C	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	NOC-C	A/A	0.576449	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	A2780-C	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	TOV112-C	A/A	0.521027	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	SKOV-C	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	HOSPIC-C	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	FT33-C	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	NOC-C	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	A2780-T	A/A	0.525351	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	TOV112-T	A/A	0.524933	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	SKOV-T	A/A	0.513045	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	HOSPIC-T	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	FT33-T	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	NOC-T	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	A2780-T	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	TOV112-T	A/A	0.533845	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	SKOV-T	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	HOSPIC-T	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	FT33-T	A/A	0.532481	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	NOC-T	A/A	0.526249	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	NOC-T	A/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	CEPH	A/A	0.622530	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	NTC	N/A	0.000000	0.000000	2018-07-11_GS-997.eds
SOD3	C_2668728_10	rs2536512	SJL	A/A	0.682456	0.559216	2018-07-11_GS-997.eds



Cell Lines	Gene (rs number)				
	CAT (rs769217)	NOS2 (rs2297518)	GSR (rs8190955)	GPX1 (rs3448)	SOD3 (rs2536512)
A2780- Control	C/C	C/C	G/G	C/T	A/A
A2780- Talc	C/C	C/C	G/G	C/C	A/A
SKOV-3- Control	C/C	C/C	G/G	C/T	A/A
SKOV-3- Talc	C/C	T/T	G/G	C/C	A/A
TOV112D- Control	C/C	C/C	G/G	C/T	A/A
TOV112D-Talc	C/T	C/C	G/G	C/C	A/A
HOSEpiC- Control	C/C	C/C	G/G	C/T	A/A
HOSEpiC- Talc	C/T	T/T	G/G	C/T	A/A
FT33- Control	C/C	C/C	G/G	C/T	A/A
FT33- Talc	C/T	T/T	G/G	C/C	A/A
Normal Ovarian- Control	C/C	C/C	G/G	C/T	A/A
Normal Ovarian- Talc	C/T	T/T	G/G	C/C	A/A

MTT Cell Proliferation Assay

(Trevigen Cat#4890-25K)

MTT

9/4/2018

- Seeded cells 8000 cells/well
- Count cells using the hemacytometer

96 wells Plate design

	1	2	3	4	5	6	7	8	9	10	11	12
A	A2780 Unt			EL-1 Unt								
B	A2780 100ug/ml			EL-1 100ug/ml								
C												
D	SKOV-3 Unt			TOV112 Unt								
E	SKOV-3 100ug/ml			TOV112 100ug/ml								
F												
G	Normal ovarian Unt			FT33 Unt								
H	Normal ovarian 100ug/ml			FT33 100ug/ml								

9/5/2018

- Treat cells with talc

$$X \cdot 10^4 \text{ ug/ml} = (5 \text{ ml}) (100 \text{ ug/ml}) \Rightarrow X = 50 \text{ ml}$$

9/6/2018

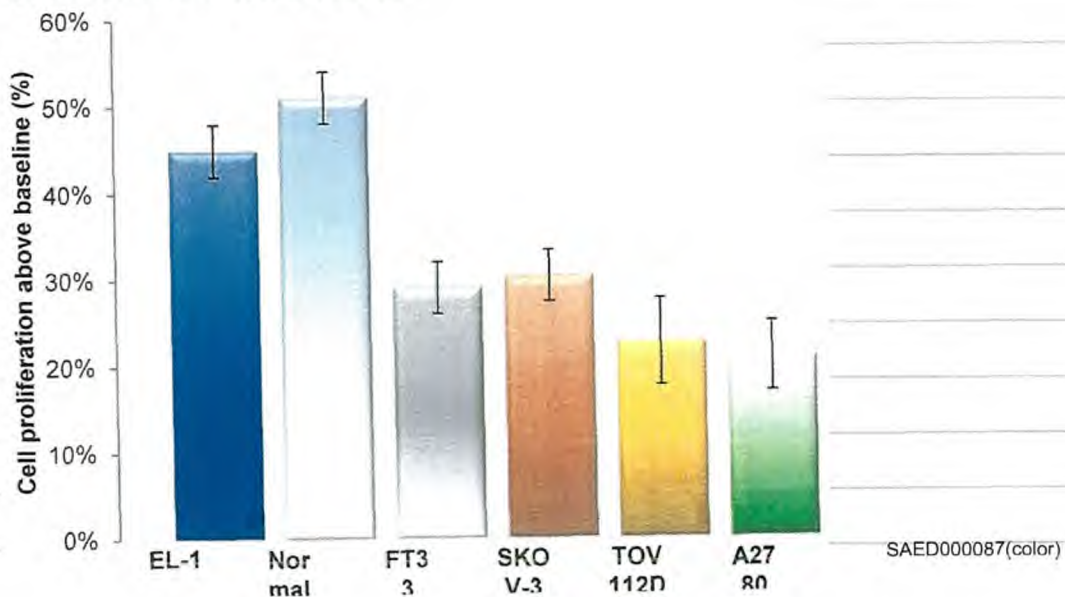
- After 24 hours treatment
- Add 10ul MTT reagent to each well
- Incubate 2 hours in 37°C incubator
 - * For normal cells, incubate more than 2 hours.
 - Check under microscope to make sure has fromanza.
- Next, add second reagent (SDS-HCl Detergent Reagent)
 - 100ul per well
- Incubate 2-4 hours in 37°C incubator
- Detect at 570 nm

Raw data

9/6/2018					
1	2	3	4	5	6
0.1764	0.17	0.1767	0.1616	0.15	0.156
0.212	0.223	0.2261	0.2899	0.2873	0.2719
0.1225	0.1248	0.1232	0.192	0.2087	0.1961
0.2198	0.2126	0.2171	0.2604	0.251	0.2598
0.3042	0.3017	0.3269	0.1383	0.1402	0.1437
0.1593	0.1506	0.1598	0.253	0.2643	0.2539
0.1244	0.1202	0.1282	0.151	0.1541	0.15
0.103	0.115	0.112	0.1411	0.1414	0.1408
0.225	0.2248	0.2232	0.192	0.2087	0.1961

Cell type	OD 1	OD 2	OD 3	Corr 1	Corr 2	Corr 3	Cytotoxicity (%) 1	Cytotoxicity (%) 2	Cytotoxicity (%) 3	Average	SD
A2780 unt	0.1764	0.17	0.1767	0.1764	0.17	0.1767	0%	0%	0%	0%	0%
100 ug/ml	0.212	0.223	0.2261	0.212	0.223	0.2261	17%	24%	22%	20.80%	4%
SKOV unt	0.2198	0.2126	0.2171	0.2198	0.2126	0.2171	0%	0%	0%	0.00%	0%
100 ug/ml	0.3042	0.3017	0.3269	0.3042	0.3017	0.3269	28%	30%	34%	30.29%	3%
TOV112 unt	0.192	0.2087	0.1961	0.192	0.2087	0.1961	0%	0%	0%	0.00%	0%
100 ug/ml	0.2604	0.251	0.2598	0.2604	0.251	0.2598	26%	17%	25%	22.55%	5%
EL-1 unt	0.1616	0.15	0.156	0.1616	0.15	0.156	0%	0%	0%	0.00%	0%
100 ug/ml	0.2899	0.2873	0.2719	0.2899	0.2873	0.2719	44%	48%	43%	44.89%	3%
Normal ovarian unt	0.103	0.115	0.112	0.103	0.115	0.112	0%	0%	0%	0.0%	0%
100 ug/ml	0.225	0.2248	0.2232	0.225	0.2248	0.2232	54%	49%	50%	51.0%	3%
FT33 unt	0.1411	0.1414	0.1408	0.1411	0.1414	0.1408	0%	0%	0%	0.0%	0%
100 ug/ml	0.192	0.2087	0.1961	0.192	0.2087	0.1961	27%	32%	28%	29.0%	3%

MTT Cell Proliferation

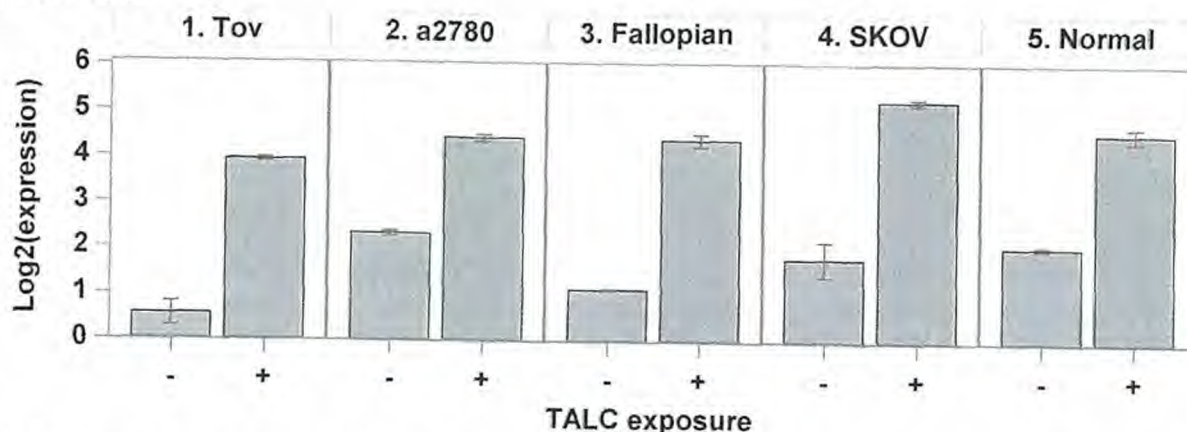


Statistical Analysis

10.6.18

- Normality was examined using the Kolmogorov-Smirnov test and by visual inspection of quantile-quantile plots.
- Because most of the data were not normally distributed, differences in distributions were examined using the Kruskal-Wallis test.
- Generalized linear models were used to examine pairwise differences in estimated least squares means by exposure to 0, 5, 20 or 100 $\mu\text{g}/\text{ml}$ of Talc, with or without Tukey-Kramer adjustment for multiple comparisons.
- Analyte expression values were \log_2 transformed after adding a numeric constant "1" to avoid negative values.
- P-values below 0.05 was considered statistically significant

CA125



Mean \pm Standard Deviation Log2(Marker) Expression with and without exposure to TALC [Note: The data were \log_2 transformed after adding a numeric constant ("1") to avoid negative transformed expression values]

Mean Std Med iQR

PCR

PCR									
Analysis Variable : log2expPlusOne									
Cell_line	Marker	exposure	N Obs	Mean	Std Dev	Std Error	Median	25th Pctl	75th Pctl
A2780	CAT	i. 0 ug/ml	3	3.6668399	0.0866785	0.0500438	3.6474296	3.5916794	3.7617108
		ii. 5 ug/m	3	3.551069	0.0962913	0.0555938	3.5008021	3.4903134	3.6620915
		iii. 20 ug	3	3.0529977	0.0522557	0.0301698	3.0282155	3.0177438	3.1130337
		iv. 100 ug	3	2.3093358	0.0943387	0.0544665	2.2871768	2.228049	2.4127815
	GSR	i. 0 ug/ml	3	2.4390697	0.0218641	0.0126233	2.448108	2.4141355	2.4548655
		ii. 5 ug/m	3	2.3042019	0.0085862	0.0049573	2.2992447	2.2992447	2.3141164
		iii. 20 ug	3	1.8875253	0	0	1.8875253	1.8875253	1.8875253
		iv. 100 ug	3	1.4494482	0.0470991	0.0271927	1.4766409	1.3950628	1.4766409
	GST	i. 0 ug/ml	3	2.8387682	0.028132	0.016242	2.8225262	2.8225262	2.8712523
		ii. 5 ug/m	3	2.5891539	0.0820301	0.0473601	2.5604704	2.5253172	2.6316741
		iii. 20 ug	3	2.1458805	0.1374958	0.0793832	2.1528324	2.0050408	2.2797684
		iv. 100 ug	3	1.4536326	0.1735074	0.1001745	1.421156	1.2986583	1.6410836
	MPO	i. 0 ug/ml	3	4.4203917	0.3911882	0.2258526	4.4919172	3.9883761	4.7708819
		ii. 5 ug/m	3	5.4678059	0.0287839	0.0166184	5.4783894	5.4352285	5.4897998
		iii. 20 ug	3	6.1434159	0.0387315	0.0223817	6.1642432	6.0987269	6.1672776
		iv. 100 ug	3	6.5277399	0.0576635	0.0332921	6.5248159	6.4715939	6.5868098
	NO2	i. 0 ug/ml	3	4.0269499	0.0465503	0.0268758	4.0362368	3.9764553	4.0681549
		ii. 5 ug/m	3	4.3957668	0.0386617	0.0223213	4.3782342	4.3689778	4.4400864
		iii. 20 ug	3	4.7555891	0.0207424	0.0119757	4.7457751	4.7415748	4.7794173
		iv. 100 ug	3	5.4497071	0.3718927	0.2147123	5.2435548	5.2265471	5.8790195
	SOD	i. 0 ug/ml	3	4.7346013	0.0833955	0.0481484	4.7342219	4.6513962	4.8181859
		ii. 5 ug/m	3	4.3928697	0.1958249	0.1130598	4.3761514	4.2059398	4.5965178
		iii. 20 ug	3	3.382088	0.2905107	0.1677264	3.3589588	3.1038333	3.6834719
		iv. 100 ug	3	2.7808885	0.0229483	0.0132482	2.7824369	2.75446	2.7957669
EL-1	CAT	i. 0 ug/ml	3	4.6347343	0.007743	0.0044704	4.6320937	4.528667	4.6434522
		ii. 5 ug/m	3	4.4475437	0.0186019	0.0107263	4.4570889	4.4261305	4.4594316
		iii. 20 ug	3	3.9117219	0.0631814	0.0364778	3.891322	3.8612606	3.9825829
		iv. 100 ug	3	3.4137774	0.085582	0.0494108	3.3886287	3.3602238	3.5124797
	GSR	i. 0 ug/ml	3	3.1584852	0.0170451	0.009841	3.1529946	3.1446621	3.1775969
		ii. 5 ug/m	3	2.8776443	0.0207752	0.0119946	2.8710551	2.8609628	2.9009151
		iii. 20 ug	3	2.3091592	0.0085862	0.0049573	2.3141164	2.2992447	2.3141164
		iv. 100 ug	3	1.6341862	0.0494412	0.0285449	1.650305	1.5786972	1.6735564
	GST	i. 0 ug/ml	3	2.5764269	0.0731098	0.0422099	2.6085186	2.4928223	2.6271399
		ii. 5 ug/m	3	2.1904434	0.0169111	0.0097636	2.1906149	2.1734473	2.2072682
		iii. 20 ug	3	2.0394084	0.1873334	0.108157	2.1384868	1.8233418	2.1563968
		iv. 100 ug	3	1.2697114	0.1463694	0.0845064	1.2986583	1.1110313	1.3994446
	MPO	i. 0 ug/ml	3	6.3838911	0.190338	0.1098917	6.3861557	6.1924309	6.5730867
		ii. 5 ug/m	3	6.8957103	0.0395005	0.0228056	6.6743477	6.6714915	6.7412917
		iii. 20 ug	3	6.9337227	0.0236576	0.0136587	6.9360372	6.908993	6.956138
		iv. 100 ug	3	7.1102543	0.0261662	0.0151071	7.1212745	7.0803805	7.1291078
	NO2	i. 0 ug/ml	3	3.6938228	0.1276474	0.0736972	3.7208257	3.5548344	3.8058083
		ii. 5 ug/m	3	4.2260657	0.1170831	0.0875979	4.2039842	4.1215957	4.3528173
		iii. 20 ug	3	5.1869652	0.0562575	0.0324803	5.1839628	5.1041889	5.2127639
		iv. 100 ug	3	5.4177992	0.0803845	0.04641	5.41792	5.3373543	5.4981232
	SOD	i. 0 ug/ml	3	5.456788	0.3237203	0.1869	5.4515079	5.1357401	5.7831161
		ii. 5 ug/m	3	4.6439809	0.011235	0.0064865	4.6374943	4.6374943	4.6569539
		iii. 20 ug	3	3.9340229	0.0675847	0.03902	3.9214383	3.8736164	4.0070161
		iv. 100 ug	3	3.6529395	0.0577189	0.033324	3.6507646	3.5963389	3.7117151
FT33	CAT	i. 0 ug/ml	3	4.7632398	0.0189612	0.0109473	4.753658	4.7509816	4.7850797
		ii. 5 ug/m	3	4.5434772	0.0186948	0.0107935	4.5531147	4.5219302	4.5553867
		iii. 20 ug	3	3.9261712	0.0739831	0.0426853	3.9585643	3.8415706	3.9783787
		iv. 100 ug	3	3.3118478	0.0452928	0.0261498	3.3033424	3.2715751	3.3609261
	GSR	i. 0 ug/ml	3	2.6664232	0.0114767	0.0066261	2.6665294	2.6548938	2.6778465
		ii. 5 ug/m	3	2.2891742	0.0174426	0.0100705	2.2892447	2.2690331	2.2992447
		iii. 20 ug	3	1.8739905	0.0305612	0.0176445	1.8675012	1.8471952	1.9072753
		iv. 100 ug	3	1.0007073	0.0585114	0.0326268	1.0136409	0.9388503	1.0495308
	GST	i. 0 ug/ml	3	2.7078651	0.0109679	0.0063323	2.7125958	2.6953257	2.7156738
		ii. 5 ug/m	3	2.311842	0.0154105	0.0086972	2.3109217	2.2966042	2.3273999
		iii. 20 ug	3	1.9325492	0.0083186	0.0048027	1.9328171	1.9240999	1.9407308
		iv. 100 ug	3	1.0931963	0.1387384	0.0801006	1.1130337	0.9458077	1.220949
	MPO	i. 0 ug/ml	3	3.6837387	0.0521848	0.0301289	3.6595821	3.6460052	3.7436227
		ii. 5 ug/m	3	2.4202895	0.2581914	0.1490689	2.3527585	2.2025744	2.7055356
		iii. 20 ug	3	3.4310737	0.383192	0.221236	3.4238471	3.0515461	3.8178279
		iv. 100 ug	3	2.4868309	0.5738839	0.3312165	2.5043662	1.9045804	3.0515461
	NO2	i. 0 ug/ml	3	2.979957	0.1311209	0.0757027	3.0428194	2.8292407	3.0678108
		ii. 5 ug/m	3	4.2315124	0.1109416	0.0640522	4.211791	4.1317541	4.3509922
		iii. 20 ug	3	5.0433074	0.0505578	0.0291896	5.0403226	4.9943082	5.0952915
		iv. 100 ug	3	5.2273225	0.0176408	0.0101849	5.2222636	5.2127639	5.2469401
	SOD	i. 0 ug/ml	3	4.2602737	0.1042203	0.0601716	4.2540849	4.1442096	4.3525467
		ii. 5 ug/m	3	3.5078828	0.0672157	0.038807	3.4736571	3.4646683	3.5853231
		iii. 20 ug	3	2.5079502	0.0562015	0.032448	2.4985062	2.4570689	2.5682754

RCR

		iv. 100 ug	3	1.9444382	0.0880198	0.0508182	1.937721	1.8599695	2.0355239
NOE	CAT	i. 0 ug/ml	3	3.710353	0.048923	0.0282457	3.7026575	3.6657338	3.7626677
		ii. 5 ug/m	3	3.4435567	0.0148987	0.0084883	3.4408193	3.4304191	3.4594316
		iii. 20 ug	3	3.0660752	0.0478082	0.0276021	3.0499792	3.0283923	3.1198541
		iv. 100 ug	3	2.4488001	0.0523535	0.0302283	2.4709273	2.3890161	2.488457
	GSR	i. 0 ug/ml	3	3.2666551	0.0315951	0.0182414	3.2567088	3.24123	3.3020285
		ii. 5 ug/m	3	2.9555529	0.0239087	0.0138037	2.9588427	2.9301696	2.9776463
		iii. 20 ug	3	2.6352146	0.0180554	0.0104243	2.6313371	2.619413	2.6548936
		iv. 100 ug	3	2.2382223	0.0154412	0.008915	2.2381754	2.228046	2.2536868
	GST	i. 0 ug/ml	3	2.4084654	0.03030423	0.01749615	2.5675454	2.0590091	2.5988416
		ii. 5 ug/m	3	1.9560063	0.0358575	0.0207023	1.9437338	1.9278965	1.9963887
		iii. 20 ug	3	1.4784648	0.0929867	0.0536859	1.5265697	1.3712801	1.5375446
		iv. 100 ug	3	0.7539717	0.0295043	0.0170921	0.7432995	0.7311832	0.7874325
	MPO	i. 0 ug/ml	3	3.3801234	0.0349896	0.0202012	3.3804524	3.3449705	3.4148473
		ii. 5 ug/m	3	2.709032	0.0784764	0.0262485	2.7710404	2.2025744	3.1534811
		iii. 20 ug	3	2.9606787	0.0339471	0.0198994	2.9703015	2.922959	2.9887756
		iv. 100 ug	3	2.8974492	0.02328767	0.01344514	2.8641368	2.8630227	3.1451893
	NO2	i. 0 ug/ml	3	3.7243216	0.0501246	0.0289395	3.7086287	3.683921	3.7804151
		ii. 5 ug/m	3	4.394039	0.0368408	0.0212701	4.375943	4.3697456	4.4364284
		iii. 20 ug	3	4.928477	0.0549816	0.0317436	4.9279438	4.873764	4.9837233
		iv. 100 ug	3	5.5337093	0.0347537	0.0200851	5.5276334	5.5023943	5.5711003
	SOD	i. 0 ug/ml	3	3.9632817	0.1567405	0.0904942	3.9799339	3.79888	4.1110313
		ii. 5 ug/m	3	3.5678281	0.0822589	0.0474922	3.5279461	3.5127326	3.6622055
		iii. 20 ug	3	2.6525607	0.0620037	0.0357978	2.6782973	2.5818333	2.6975514
		iv. 100 ug	3	2.3872706	0.0899191	0.0519148	2.3631711	2.2794713	2.4591693
SKOV-3	CAT	i. 0 ug/ml	3	3.8929757	0.1265283	0.0732244	3.9657843	3.7465278	3.966615
		ii. 5 ug/m	3	3.5294147	0.108098	0.0624093	3.4767705	3.4577256	3.6537479
		iii. 20 ug	3	3.2783228	0.1368648	0.079019	3.2509618	3.1572054	3.4268015
		iv. 100 ug	3	2.2973771	0.0509856	0.0264365	2.3193289	2.2390925	2.33371
	GSR	i. 0 ug/ml	3	3.0022571	0.0104774	0.0050491	2.9982079	2.9952079	3.0143553
		ii. 5 ug/m	3	2.4277615	0.0273508	0.015791	2.4278743	2.4002647	2.4549655
		iii. 20 ug	3	2.2841653	0.0151058	0.0087214	2.284218	2.2690331	2.2992447
		iv. 100 ug	3	1.7840822	0.0427295	0.0246699	1.784504	1.7411434	1.8265993
	GST	i. 0 ug/ml	3	2.7222888	0.0512982	0.0296171	2.7422218	2.6640277	2.7606468
		ii. 5 ug/m	3	2.4610932	0.0675923	0.0390245	2.4926223	2.3834969	2.5071603
		iii. 20 ug	3	2.1321947	0.11075	0.0639415	2.1839628	2.0050406	2.2076865
		iv. 100 ug	3	1.5233864	0.0812994	0.0489382	1.5533605	1.4313555	1.5854433
	MPO	i. 0 ug/ml	3	4.3390025	0.0414058	0.0239057	4.3382105	4.2679984	4.3807987
		ii. 5 ug/m	3	5.796017	0.0163482	0.0094375	5.8045022	5.7771567	5.808092
		iii. 20 ug	3	6.362497	0.0311108	0.0179619	6.3553159	6.3355047	6.3955705
		iv. 100 ug	3	8.9682174	0.0006784	0.0003917	8.9678257	8.9678257	8.9690008
	NO2	i. 0 ug/ml	3	4.0903869	0.0303827	0.0175415	4.1030779	4.0557183	4.1123665
		ii. 5 ug/m	3	4.3082108	0.0500746	0.0289106	4.3192586	4.2636365	4.3518403
		iii. 20 ug	3	4.7683444	0.0337166	0.0194663	4.760006	4.7395781	4.8054472
		iv. 100 ug	3	5.2241662	0.0317886	0.0183531	5.2131917	5.199319	5.259988
	SOD	i. 0 ug/ml	3	4.8762514	0.1489147	0.0859759	4.8402739	4.5486216	4.8398588
		ii. 5 ug/m	3	4.119983	0.0126658	0.0073126	4.1171963	4.1089426	4.1338101
		iii. 20 ug	3	3.4742309	0.1798399	0.1038306	3.4603494	3.301734	3.6808092
		iv. 100 ug	3	2.8485275	0.0898049	0.0518489	2.8341044	2.7888072	2.9446711
TOV-112	CAT	i. 0 ug/ml	3	3.9387605	0.0147273	0.0085028	3.9307373	3.9259994	3.9535446
		ii. 5 ug/m	3	3.6047714	0.0070956	0.0040987	3.602053	3.5994368	3.6128243
		iii. 20 ug	3	2.9234085	0.0367419	0.021213	2.9305481	2.8636208	2.9560567
		iv. 100 ug	3	2.3772379	0.1348644	0.0777486	2.4138548	2.228049	2.4897998
	GSR	i. 0 ug/ml	3	2.3574049	0.0430757	0.0248898	2.3576335	2.3141164	2.4002847
		ii. 5 ug/m	3	2.1638806	0.011926	0.0068855	2.1705661	2.1499097	2.1705661
		iii. 20 ug	3	1.8028306	0.0239891	0.0138501	1.8031219	1.786972	1.8266728
		iv. 100 ug	3	1.3281956	0.0169756	0.0098009	1.3378965	1.3085939	1.3379965
	GST	i. 0 ug/ml	3	2.6358633	0.1267042	0.0731527	2.6594579	2.4990167	2.7491051
		ii. 5 ug/m	3	2.2357771	0.0874612	0.0504957	2.1940871	2.178981	2.3962834
		iii. 20 ug	3	1.5685321	0.1467886	0.0847485	1.5509007	1.4313555	1.7233401
		iv. 100 ug	3	0.9064238	0.1433487	0.0827524	0.8519988	0.7982579	1.0690147
	MPO	i. 0 ug/ml	3	3.8318651	0.1626979	0.0939337	3.8846319	3.6550083	3.975355
		ii. 5 ug/m	3	4.7174873	0.1407705	0.0812739	4.7681843	4.5583901	4.8258874
		iii. 20 ug	3	5.2355859	0.0746043	0.0430728	5.2271635	5.1655502	5.3140439
		iv. 100 ug	3	6.4598527	0.02951	0.0170376	6.4509143	6.4358452	6.4927966
	NO2	i. 0 ug/ml	3	3.8881832	0.10971	0.0633411	3.8598702	3.7920224	4.0066571
		ii. 5 ug/m	3	4.5915294	0.1000141	0.0577432	4.5760383	4.5001647	4.6983852
		iii. 20 ug	3	4.3025066	0.0819684	0.0357775	4.3112125	4.2366457	4.3596617
		iv. 100 ug	3	5.1023523	0.1002657	0.0578865	5.1231695	4.9933121	5.1905754
	SOD	i. 0 ug/ml	3	5.0677115	0.0207012	0.0119519	5.0557596	5.0557596	5.0916152
		ii. 5 ug/m	3	4.34704	0.1709547	0.0987007	4.3431235	4.1780772	4.5199193
		iii. 20 ug	3	3.360278	0.1217664	0.0703019	3.33371	3.2539893	3.4831349
		iv. 100 ug	3	2.8462591	0.0881635	0.0509012	2.8308638	2.7658072	2.9411063

Mean Std Med iGr

ELISA

ELISA									
Analysis Variable = log2expPlusOne									
Cell Line	Marker	exposure	N Obs	Mean	Std Dev	Std Error	Median	25th Pctl	75th Pctl
A2780	CAT	i. 0 ug/ml	3	4.2574633	3.8874777	2.1289663	6.3314549	0	6.4409351
		ii. 5 ug/ml	3	5.9588593	0.1289159	0.0732749	6.0147182	5.8133865	6.0475932
		iii. 20 ug	3	5.4208681	0.1545027	0.0892022	5.4420085	5.2566045	5.5832913
		iv. 100 ug	3	3.3871439	0.1580791	0.091267	3.3030442	3.2888925	3.5894949
	GSR	i. 0 ug/ml	3	2.9264839	0.0560937	0.0323857	2.9565767	2.8617854	2.9611097
		ii. 5 ug/ml	3	1.8449008	0.5332502	0.3078721	2.1104274	1.2310183	2.1932582
		iii. 20 ug	3	2.6310649	0.1982989	0.1133332	2.5699484	2.4748412	2.6514048
		iv. 100 ug	3	1.9299141	0.1596065	0.0921488	1.9115039	1.780311	2.0979273
	GSTp1	i. 0 ug/ml	3	5.7815173	0.592863	0.3422896	5.6515447	5.2644238	6.4285833
		ii. 5 ug/ml	3	5.2209741	0.0698484	0.040327	5.2357195	5.1449303	5.2822726
		iii. 20 ug	3	4.4893251	0.200935	0.1160099	4.5497155	4.2651208	4.6531392
		iv. 100 ug	3	2.864807	0.1177024	0.0679555	2.9145098	2.7304062	2.9495049
	MPO	i. 0 ug/ml	3	0.1695431	0.0354213	0.0204505	0.1615308	0.1388142	0.2082642
		ii. 5 ug/ml	3	0.3337243	0.043782	0.0252776	0.3514984	0.2638504	0.3656241
		iii. 20 ug	3	0.4814097	0.0205819	0.0118829	0.4910932	0.4577721	0.4953630
		iv. 100 ug	3	0.9288378	0.0655643	0.0378536	0.9442591	0.8569376	0.985317
	SOD3	i. 0 ug/ml	3	1.6356813	0.0687084	0.0396688	1.6205848	1.5757932	1.7106959
		ii. 5 ug/ml	3	1.3851168	0.0391983	0.0226312	1.3644345	1.3605913	1.4303248
		iii. 20 ug	3	1.0724011	0.0370578	0.0213953	1.087577	1.0301642	1.099462
		iv. 100 ug	3	0.571832	0.0450738	0.0260234	0.5822635	0.522457	0.6107754
	INOS	i. 0 ug/ml	3	2.6881765	0.0984259	0.0588262	2.6911032	2.5883199	2.7851055
		ii. 5 ug/ml	3	3.2130877	0.0487256	0.0281317	3.1855467	3.1843872	3.2693572
		iii. 20 ug	3	4.1128539	0.0850274	0.0375438	4.0981837	4.0584148	4.1839633
		iv. 100 ug	3	4.5493201	0.0334892	0.019335	4.5523704	4.51441	4.5811798
EL1	CAT	i. 0 ug/ml	3	6.3300782	1.0158524	0.5855026	6.8414955	5.1601522	6.9885899
		ii. 5 ug/ml	3	6.4719538	0.2664051	0.153009	6.4819999	6.2006676	6.7331937
		iii. 20 ug	3	5.8725758	0.0890101	0.039843	5.8582776	5.8131735	5.9482761
		iv. 100 ug	3	5.2392865	0.172504	0.0995952	5.2824379	5.0484618	5.3789602
	GSR	i. 0 ug/ml	3	5.1198603	0.2068003	0.1193562	5.0403859	4.9645866	5.3546064
		ii. 5 ug/ml	3	4.1921745	0.5224649	0.3016452	4.4293835	3.5931864	4.5539537
		iii. 20 ug	3	2.2632358	0.0992817	0.0573203	2.2588513	2.166219	2.3648371
		iv. 100 ug	3	2.6260068	0.112917	0.0651927	2.6324997	2.5099835	2.7355373
	GSTp1	i. 0 ug/ml	3	5.3269582	0.0255202	0.0147341	5.3210982	5.3048777	5.3548968
		ii. 5 ug/ml	3	4.3978426	0.3052705	0.178248	4.4171413	4.0833807	4.6930059
		iii. 20 ug	3	4.7882778	0.0915836	0.0528758	4.8217331	4.6846702	4.8584299
		iv. 100 ug	3	4.6385363	0.3957429	0.2284823	4.47838	4.3498428	5.0890064
	MPO	i. 0 ug/ml	3	0.690605	0.0020924	0.0011561	0.6916646	0.5882954	0.591855
		ii. 5 ug/ml	3	0.4965263	0.1202534	0.0694283	0.5295436	0.3632133	0.5968221
		iii. 20 ug	3	0.7353674	0.034122	0.0197003	0.7317707	0.7031882	0.7711452
		iv. 100 ug	3	2.8882919	0.1365558	0.0783209	2.7400205	2.5345623	2.790473
	SOD3	i. 0 ug/ml	3	1.9403529	0.0038349	0.0022141	1.9423824	1.9359298	1.9427466
		ii. 5 ug/ml	3	1.782667	0.0262256	0.0151413	1.7894473	1.753717	1.8048365
		iii. 20 ug	3	1.402393	0.0115761	0.0066835	1.4011151	1.3915089	1.4145551
		iv. 100 ug	3	1.0514554	0.0420738	0.0242913	1.0329162	1.0218349	1.099615
	INOS	i. 0 ug/ml	3	1.1485613	0.0486258	0.0280741	1.1221945	1.1188138	1.2046757
		ii. 5 ug/ml	3	1.8412055	0.0516723	0.029833	1.822735	1.8013068	1.8995748
		iii. 20 ug	3	3.0062736	0.0421275	0.0243223	3.0097882	2.9668911	3.0511415
		iv. 100 ug	3	4.5040677	0.0646358	0.0373175	4.5045345	4.4391998	4.5684688
FT33	CAT	i. 0 ug/ml	3	5.9332377	0.1538457	0.0887074	5.9078581	5.793862	6.097993
		ii. 5 ug/ml	3	5.5351585	0.030892	0.0178355	5.523883	5.5114881	5.5701043
		iii. 20 ug	3	4.9708572	0.0418055	0.0241364	4.9772722	4.926215	5.0090845
		iv. 100 ug	3	2.4514373	0.1291939	0.0745902	2.5223921	2.3023151	2.5296046
	GSR	i. 0 ug/ml	3	3.5339647	0.0598797	0.0345715	3.504263	3.4947421	3.6028889
		ii. 5 ug/ml	3	2.8607994	0.0235767	0.013612	2.8650113	2.8354007	2.8819864
		iii. 20 ug	3	2.0278518	0.0290597	0.0167776	2.0378526	1.9951124	2.0505904
		iv. 100 ug	3	1.8968547	0.0231513	0.0133584	1.8984466	1.8729485	1.919169
	GSTp1	i. 0 ug/ml	3	4.7381471	0.107903	0.0622978	4.7079212	4.6451624	4.8563578
		ii. 5 ug/ml	3	4.327875	0.1985287	0.1146208	4.4131073	4.1009622	4.4695555
		iii. 20 ug	3	4.1330876	0.0801956	0.0463009	4.1048166	4.0708207	4.2235655
		iv. 100 ug	3	3.7795494	0.0577846	0.0333619	3.7815482	3.7207913	3.8363086
	MPO	i. 0 ug/ml	3	0.1080559	0.0087403	0.0050462	0.1056055	0.1008025	0.1177599
		ii. 5 ug/ml	3	0.1422642	0.0022615	0.0013057	0.1421418	0.1400664	0.1445843
		iii. 20 ug	3	0.0365338	0.0050804	0.0029216	0.0377899	0.0309636	0.0408479
		iv. 100 ug	3	0.0582339	0.0028877	0.0016672	0.0576544	0.052911	0.0581381
	SOD3	i. 0 ug/ml	3	1.5787641	0.0592452	0.0342053	1.6055748	1.5108529	1.6198646
		ii. 5 ug/ml	3	1.2077143	0.0591121	0.0341284	1.2189842	1.1437785	1.2603801
		iii. 20 ug	3	1.1026223	0.0814474	0.0470237	1.1148175	1.015765	1.1772845
		iv. 100 ug	3	0.2738437	0.0096006	0.0055429	0.2790651	0.2625588	0.2793072
	INOS	i. 0 ug/ml	3	2.1834173	0.0185584	0.00956	2.184654	2.1662753	2.1993227
		ii. 5 ug/ml	3	3.0461442	0.0574143	0.0331482	3.0523119	2.9858951	3.1002257
		iii. 20 ug	3	3.8198995	0.0362527	0.0220852	3.807153	3.7880542	3.8617614

ELISA

		iv. 100 ug	3	4.5384267	0.0174581	0.0100794	4.3344887	4.3232772	4.3575201
NOE	CAT	i. 0 ug/ml	3	6.7716206	0.013433	0.0077555	6.7743003	6.7570498	6.7835118
		ii. 5 ug/m	3	5.1019337	0.1200419	0.0693082	5.0744766	4.9979991	5.2333255
		iii. 20 ug	3	4.2849863	0.197989	0.114309	4.3209484	4.0714811	4.4625294
		iv. 100 ug	3	2.4565889	0.0742726	0.0428813	2.438142	2.3932752	2.5363465
	GSR	i. 0 ug/ml	3	3.494584	0.0675773	0.0390158	3.5123609	3.4198952	3.5514958
		ii. 5 ug/m	3	3.2496606	0.2901599	0.1675239	3.3439705	2.924078	3.4809333
		iii. 20 ug	3	2.4497142	0.1566082	0.0904178	2.4748103	2.2820734	2.592259
		iv. 100 ug	3	2.3945716	0.0941968	0.0543846	2.4130934	2.2924896	2.4781317
	GSTp1	i. 0 ug/ml	3	6.3242069	0.0418843	0.0241819	6.3136459	6.2886139	6.3703609
		ii. 5 ug/m	3	5.8542165	0.0546727	0.0315653	5.8698997	5.7834162	5.8993337
		iii. 20 ug	3	4.9553189	0.1116465	0.0644591	4.9305681	4.8581248	5.0772639
		iv. 100 ug	3	3.5904539	0.0051691	0.0029844	3.591323	3.5849054	3.5951334
	MPO	i. 0 ug/ml	3	0.1295906	0.0072796	0.0042029	0.128816	0.1227292	0.1372265
		ii. 5 ug/m	3	0.0362084	0.0013902	0.00080262	0.0364896	0.0346991	0.0374365
		iii. 20 ug	3	0.0595687	0.0059828	0.0034542	0.0585222	0.0557223	0.0664616
		iv. 100 ug	3	0.0897481	0.0032252	0.0018621	0.0898807	0.0864586	0.0929051
	SOD3	i. 0 ug/ml	3	1.6738595	0.0447064	0.0258113	1.6922109	1.6229094	1.7064883
		ii. 5 ug/m	3	1.47609	0.0516773	0.0298359	1.4920505	1.4183153	1.5179043
		iii. 20 ug	3	1.1836494	0.0408426	0.0235805	1.20437	1.1365998	1.2099785
		iv. 100 ug	3	0.6498753	0.0215272	0.0124287	0.6443161	0.6316729	0.6736367
	INOS	i. 0 ug/ml	3	2.6443782	0.043948	0.0253734	2.8627272	2.7842292	2.8761783
		ii. 5 ug/m	3	3.5390048	0.0471559	0.0272254	3.5516972	3.4868014	3.578515
		iii. 20 ug	3	4.0982555	0.0313536	0.018102	4.0809164	4.0794012	4.1344489
		iv. 100 ug	3	4.7720961	0.0576565	0.033288	4.791697	4.7071946	4.8173986
	SKOV3	i. 0 ug/ml	3	5.2349114	0.0800568	0.0462208	6.1902817	6.1871175	6.327335
	CAT	ii. 5 ug/m	3	5.1019337	0.1200419	0.0693082	5.0744766	4.9979991	5.2333255
		iii. 20 ug	3	4.2849863	0.197989	0.114309	4.3209484	4.0714811	4.4625294
		iv. 100 ug	3	2.299037	0.0279868	0.013433	2.8653202	1.1124302	2.9193805
	GSR	i. 0 ug/ml	3	3.494584	0.0675773	0.0390158	3.5123609	3.4198952	3.5514958
		ii. 5 ug/m	3	3.2496606	0.2901599	0.1675239	3.3439705	2.924078	3.4809333
		iii. 20 ug	3	2.4497142	0.1566082	0.0904178	2.4748103	2.2820734	2.592259
		iv. 100 ug	3	2.3945716	0.0941968	0.0543846	2.4130934	2.2924896	2.4781317
	GSTp1	i. 0 ug/ml	3	6.3242069	0.0418843	0.0241819	6.3136459	6.2886139	6.3703609
		ii. 5 ug/m	3	5.8542165	0.0546727	0.0315653	5.8698997	5.7834162	5.8993337
		iii. 20 ug	3	4.9553189	0.1116465	0.0644591	4.9305681	4.8581248	5.0772639
		iv. 100 ug	3	3.5904539	0.0051691	0.0029844	3.591323	3.5849054	3.5951334
	MPO	i. 0 ug/ml	3	0.0691673	0.0126831	0.0073226	0.0632442	0.0605294	0.0837284
		ii. 5 ug/m	3	0.1206415	0.0148581	0.0085783	0.128816	0.103491	0.1296173
		iii. 20 ug	3	0.304674	0.0379414	0.0219055	0.3198048	0.2615385	0.3328788
		iv. 100 ug	3	0.6434302	0.018529	0.009772	0.9375821	0.6536279	1.0018307
	SOD3	i. 0 ug/ml	3	1.6647907	0.0693283	0.0400267	1.6266476	1.6229094	1.744815
		ii. 5 ug/m	3	1.4793007	0.0463265	0.0267466	1.4857385	1.430092	1.5220717
		iii. 20 ug	3	1.1773978	0.1118808	0.0645944	1.2283831	1.0491085	1.2547219
		iv. 100 ug	3	0.5292229	0.1245649	0.0719176	0.5776365	0.3877194	0.6223127
	INOS	i. 0 ug/ml	3	2.8574573	0.0279231	0.0181214	2.9656585	2.926352	2.9803614
		ii. 5 ug/m	3	3.7412353	0.0213938	0.0123517	3.749426	3.7169563	3.7573236
		iii. 20 ug	3	4.3598372	0.0494917	0.028574	4.3573902	4.3116144	4.410507
		iv. 100 ug	3	4.7566821	0.1622307	0.093664	4.6696177	4.6565702	4.9438585
	TOV112	i. 0 ug/ml	3	5.9325442	0.2328765	0.1344513	5.982594	5.6787121	6.1363265
	CAT	ii. 5 ug/m	3	5.5465926	0.0223311	0.0128929	5.5472347	5.5239473	5.5685957
		iii. 20 ug	3	4.9538929	0.0387127	0.0223508	4.9463705	4.9194934	4.9958148
		iv. 100 ug	3	2.1420073	0.0212806	0.013612	2.1110408	1.5367891	2.7781921
	GSR	i. 0 ug/ml	3	3.5339647	0.0598797	0.0345715	3.504263	3.4947421	3.6028889
		ii. 5 ug/m	3	2.8607994	0.0235767	0.013612	2.8650113	2.8354007	2.8819864
		iii. 20 ug	3	2.0278518	0.0290597	0.0167776	2.0378525	1.9951124	2.0505904
		iv. 100 ug	3	1.8968547	0.0231513	0.0133684	1.8984466	1.8729485	1.919189
	GSTp1	i. 0 ug/ml	3	5.2904247	0.2022888	0.1167915	5.3850267	5.0581679	5.4280794
		ii. 5 ug/m	3	5.0424775	0.0018888	0.0010905	5.0427937	5.0404505	5.0441882
		iii. 20 ug	3	4.7361471	0.107903	0.0622978	4.7079212	4.6451624	4.8553578
		iv. 100 ug	3	3.6942247	0.3135182	0.1810098	3.8317963	3.3354416	3.915446
	MPO	i. 0 ug/ml	3	0.2017849	0.0284656	0.0164346	0.1910605	0.1802392	0.2340549
		ii. 5 ug/m	3	0.4599654	0.0232861	0.0134442	0.4592672	0.4370363	0.4835927
		iii. 20 ug	3	0.8324438	0.050639	0.0292364	0.8104804	0.7964946	0.8903565
		iv. 100 ug	3	1.0260858	0.0144816	0.008361	1.0231644	1.0132973	1.0418052
	SOD3	i. 0 ug/ml	3	1.5117596	0.1226454	0.0708093	1.4920118	1.4001863	1.6430806
		ii. 5 ug/m	3	1.2403551	0.0442127	0.0255262	1.2624133	1.1894533	1.2691989
		iii. 20 ug	3	1.1290264	0.0969399	0.0559683	1.1305428	1.0313372	1.2251992
		iv. 100 ug	3	0.2597342	0.0132534	0.0076519	0.2570575	0.2480234	0.2741217
	INOS	i. 0 ug/ml	3	2.1677451	0.0419739	0.0242337	2.1804552	2.1208851	2.2018949
		ii. 5 ug/m	3	3.0249777	0.1401724	0.0809286	3.0523119	2.8731515	3.1444697
		iii. 20 ug	3	3.7687098	0.049076	0.028334	3.7439537	3.7369426	3.8252331
		iv. 100 ug	3	4.2847345	0.0758406	0.0437866	4.2626797	4.2223657	4.3691579

- Non-parametric Kruskal-Wallis test for differences in distributions of each marker by exposure group;
- $P < 0.05$ indicates to reject the null hypothesis that there is no difference in expression among the four exposure groups.

PCR				ELISA			
Cell_Line	Marker	Kruskal-Wallis	Nominal P-value, Kruskal-Wallis Test	Cell_Line	Marker	Kruskal-Wallis	Nominal P-value, Kruskal-Wallis Test
A2780	CAT	4.85	0.18	A2780	CAT	9.67	0.02
	GSR	9.46	0.02		GSR	10.61	0.01
	GSTp1	9.97	0.02		GST	10.42	0.02
	MPO	10.38	0.02		MPO	10.38	0.02
	SOD3	10.38	0.02		NO2	10.38	0.02
	iNOS	10.38	0.02		SOD	10.38	0.02
EL1	CAT	5.67	0.13	EL-1	CAT	10.38	0.02
	GSR	10.38	0.02		GSR	10.42	0.02
	GSTp1	7.51	0.06		GST	10.38	0.02
	MPO	9.46	0.02		MPO	10.38	0.02
	SOD3	10.38	0.02		NO2	10.38	0.02
	iNOS	10.38	0.02		SOD	10.42	0.02
FT33	CAT	10.38	0.02	FT33	CAT	10.38	0.02
	GSR	10.38	0.02		GSR	10.42	0.02
	GSTp1	9.67	0.02		GST	10.38	0.02
	MPO	10.38	0.02		MPO	8.07	0.04
	SOD3	9.97	0.02		NO2	10.38	0.02
	iNOS	10.38	0.02		SOD	10.38	0.02
NOE	CAT	10.38	0.02	NOE	CAT	10.38	0.02
	GSR	8.95	0.03		GSR	10.38	0.02
	GSTp1	10.38	0.02		GST	10.38	0.02
	MPO	10.38	0.02		MPO	6.59	0.09
	SOD3	10.38	0.02		NO2	10.38	0.02
	iNOS	10.38	0.02		SOD	10.38	0.02
SKOV3	CAT	10.38	0.02	SKOV-3	CAT	10.38	0.02
	GSR	8.95	0.03		GSR	10.42	0.02
	GSTp1	10.38	0.02		GST	10.38	0.02
	MPO	10.38	0.02		MPO	10.42	0.02
	SOD3	10.38	0.02		NO2	10.38	0.02
	iNOS	10.38	0.02		SOD	10.38	0.02
TOV112	CAT	10.38	0.02	TOV-112	CAT	10.38	0.02
	GSR	10.38	0.02		GSR	10.46	0.02
	GSTp1	10.38	0.02		GST	10.38	0.02
	MPO	10.38	0.02		MPO	10.38	0.02
	SOD3	9.97	0.02		NO2	10.38	0.02
	iNOS	10.38	0.02		SOD	10.42	0.02

Note: The data examined were log2 transformed after adding a numeric constant ('1') to avoid negative transformed expression values; the Kruskal-Wallis test had 3 degrees of freedom.

SAED000093(color)

General Linear model results PCR

Differences by exposure :		PCR																Cell_Line	Marker	R-Square
		Nominal p-values								Tukey-Kramer Adjusted										
Cell_Line	Marker	i/	i. 0 ug/ml	ii. 5 ug/m	iii. 20 ug	iv. 100 ug	i/	i. 0 ug/ml	ii. 5 ug/m	iii. 20 ug	iv. 100 ug	i/	i. 0 ug/ml	ii. 5 ug/m	iii. 20 ug	iv. 100 ug				
A2780	CAT	i. 0 ug/ml		0.2923	0.463	0.58	i. 0 ug/ml		0.6843	0.6843	0.8654	0.9363	A2780	CAT		0.305705				
A2780	CAT	ii. 5 ug/m	0.2923		0.7307	0.1268	ii. 5 ug/m	0.6843		0.9834	0.3812	A2780	GSR		0.782237					
A2780	CAT	iii. 20 ug	0.463	0.7307		0.2147	iii. 20 ug	0.8654	0.9834		0.5614	A2780	GSTp1		0.946095					
A2780	CAT	iv. 100 ug	0.58	0.1268	0.2147		iv. 100 ug	0.9363	0.3812	0.5614		A2780	MPO		0.983782					
A2780	GSR	i. 0 ug/ml		0.0021	0.257	0.0034	i. 0 ug/ml		0.009	0.6321	0.0142	A2780	SOD3		0.989886					
A2780	GSR	ii. 5 ug/m	0.0021		0.0117	0.7345	ii. 5 ug/m	0.009		0.0469	0.9841	A2780	iNOS		0.994802					
A2780	GSR	iii. 20 ug	0.257	0.0117		0.02	iii. 20 ug	0.6321	0.0469		0.077	EL1	CAT		0.548452					
A2780	GSR	iv. 100 ug	0.0034	0.7345	0.02		iv. 100 ug	0.0142	0.9841	0.077		EL1	GSR		0.959807					
A2780	GSTp1	i. 0 ug/ml		0.0645	0.0011	<.0001	i. 0 ug/ml		0.2189	0.005	<.0001	EL1	GSTp1		0.729358					
A2780	GSTp1	ii. 5 ug/m	0.0645		0.0233	<.0001	ii. 5 ug/m	0.2189		0.0886	<.0001	EL1	MPO		0.993123					
A2780	GSTp1	iii. 20 ug	0.0011	0.0233		0.0003	iii. 20 ug	0.005	0.0886		0.0012	EL1	SOD3		0.996388					
A2780	GSTp1	iv. 100 ug	<.0001	<.0001	0.0003		iv. 100 ug	<.0001	<.0001	0.0012		EL1	iNOS		0.996388					
A2780	MPO	i. 0 ug/ml		0.0019	<.0001	<.0001	i. 0 ug/ml		0.0084	0.0001	<.0001	FT33	CAT		0.996113					
A2780	MPO	ii. 5 ug/m	0.0019		0.0036	<.0001	ii. 5 ug/m	0.0084		0.0151	<.0001	FT33	GSR		0.997533					
A2780	MPO	iii. 20 ug	<.0001	0.0036		<.0001	iii. 20 ug	0.0001	0.0151		<.0001	FT33	GSTp1		0.921688					
A2780	MPO	iv. 100 ug	<.0001	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	<.0001		FT33	MPO		0.989101					
A2780	SOD3	i. 0 ug/ml		0.0002	<.0001	<.0001	i. 0 ug/ml		0.0011	<.0001	<.0001	FT33	SOD3		0.990037					
A2780	SOD3	ii. 5 ug/m	0.0002		<.0001	<.0001	ii. 5 ug/m	0.0011		0.0002	<.0001	FT33	iNOS		0.996388					
A2780	SOD3	iii. 20 ug	<.0001	<.0001		<.0001	iii. 20 ug	<.0001	0.0002		<.0001	NOE	CAT		0.995919					
A2780	SOD3	iv. 100 ug	<.0001	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	<.0001		NOE	GSR		0.919797					
A2780	iNOS	i. 0 ug/ml		<.0001	<.0001	<.0001	i. 0 ug/ml		<.0001	<.0001	<.0001	NOE	GSTp1		0.997486					
A2780	iNOS	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001	NOE	MPO		0.986383					
A2780	iNOS	iii. 20 ug	<.0001	<.0001	<.0001		iii. 20 ug	<.0001	<.0001	<.0001	<.0001	NOE	SOD3		0.992441					
A2780	iNOS	iv. 100 ug	<.0001	<.0001	<.0001		iv. 100 ug	<.0001	<.0001		0.0002	NOE	iNOS		0.996388					
EL1	CAT	i. 0 ug/ml		0.7529	0.3241	0.0366	i. 0 ug/ml		0.9872	0.7265	0.1334	SKOV3	CAT		0.917328					
EL1	CAT	ii. 5 ug/m	0.7529		0.2059	0.0221	ii. 5 ug/m	0.9872		0.5456	0.0844	SKOV3	GSR		0.919797					
EL1	CAT	iii. 20 ug	0.3241	0.2059		0.1839	iii. 20 ug	0.7265	0.5456		0.5038	SKOV3	GSTp1		0.993049					
EL1	CAT	iv. 100 ug	0.0366	0.0221	0.1839		iv. 100 ug	0.1334	0.0844	0.5038		SKOV3	MPO		0.942852					
EL1	GSR	i. 0 ug/ml		0.0045	<.0001	<.0001	i. 0 ug/ml		0.0189	<.0001	<.0001	SKOV3	SOD3		0.969597					
EL1	GSR	ii. 5 ug/m	0.0045		<.0001	0.0002	ii. 5 ug/m	0.0189		0.0002	0.0008	SKOV3	iNOS		0.989288					
EL1	GSR	iii. 20 ug	<.0001	<.0001		0.1651	iii. 20 ug	<.0001	0.0002		0.4659	TOV112	CAT		0.967695					
EL1	GSR	iv. 100 ug	<.0001	0.0002	0.1651		iv. 100 ug	<.0001	0.0008	0.4659		TOV112	GSR		0.996388					
EL1	GSTp1	i. 0 ug/ml		0.0021	0.0319	0.0106	i. 0 ug/ml		0.0089	0.118	0.0427	TOV112	GSTp1		0.936306					
EL1	GSTp1	ii. 5 ug/m	0.0021		0.0969	0.2799	ii. 5 ug/m	0.0089		0.3077	0.6667	TOV112	MPO		0.993337					
EL1	GSTp1	iii. 20 ug	0.0319	0.0969		0.4915	iii. 20 ug	0.118	0.3077		0.8861	TOV112	SOD3		0.980254					
EL1	GSTp1	iv. 100 ug	0.0106	0.2799	0.4915		iv. 100 ug	0.0427	0.6667	0.8861		TOV112	iNOS		0.992318					
EL1	MPO	i. 0 ug/ml		0.2469	0.0908	<.0001	i. 0 ug/ml		0.6161	0.2917	<.0001									
EL1	MPO	ii. 5 ug/m	0.2469		0.0132	<.0001	ii. 5 ug/m	0.6161		0.0522	<.0001									
EL1	MPO	iii. 20 ug	0.0908	0.0132		<.0001	iii. 20 ug	0.2917	0.0522		<.0001									
EL1	MPO	iv. 100 ug	<.0001	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	<.0001										
EL1	SOD3	i. 0 ug/ml		<.0001	<.0001	<.0001	i. 0 ug/ml		0.0003	<.0001	<.0001									
EL1	SOD3	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001	ii. 5 ug/m	0.0003		<.0001	<.0001									
EL1	SOD3	iii. 20 ug	<.0001	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001	<.0001									
EL1	SOD3	iv. 100 ug	<.0001	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	<.0001										
EL1	iNOS	i. 0 ug/ml		<.0001	<.0001	<.0001	i. 0 ug/ml		<.0001	<.0001	<.0001									
EL1	iNOS	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001									
EL1	iNOS	iii. 20 ug	<.0001	<.0001	<.0001		iii. 20 ug	<.0001	<.0001	<.0001	<.0001									
EL1	iNOS	iv. 100 ug	<.0001	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	<.0001										
FT33	CAT	i. 0 ug/ml		0.0015	0.0002	<.0001	i. 0 ug/ml		0.0067	<.0001	<.0001									
FT33	CAT	ii. 5 ug/m	0.0015		0.0002	<.0001	ii. 5 ug/m	0.0067		0.0007	<.0001									
FT33	CAT	iii. 20 ug	<.0001	0.0002		<.0001	iii. 20 ug	<.0001	0.0007		<.0001									
FT33	CAT	iv. 100 ug	<.0001	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	<.0001										
FT33	GSR	i. 0 ug/ml		<.0001	<.0001	<.0001	i. 0 ug/ml		<.0001	<.0001	<.0001									
FT33	GSR	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001									
FT33	GSR	iii. 20 ug	<.0001	<.0001		0.0026	iii. 20 ug	<.0001	<.0001		0.0109									
FT33	GSR	iv. 100 ug	<.0001	<.0001	0.0026		iv. 100 ug	<.0001	<.0001	0.0109										
FT33	GSTp1	i. 0 ug/ml		0.0037	0.0003	<.0001	i. 0 ug/ml		0.0155	0.0015	<.0001									
FT33	GSTp1	ii. 5 ug/m	0.0037		0.0891	0.0006	ii. 5 ug/m	0.0155		0.2871	0.0027									
FT33	GSTp1	iii. 20 ug	0.0003	0.0891		0.0079	iii. 20 ug	0.0015	0.2871		0.0325									
FT33	GSTp1	iv. 100 ug	<.0001	0.0006	0.0079		iv. 100 ug	<.0001	0.0027	0.0325										
FT33	MPO	i. 0 ug/ml		<.0001	<.0001	<.0001	i. 0 ug/ml		0.0002	<.0001	<.0001									
FT33	MPO	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001	ii. 5 ug/m	0.0002		<.0001	<.0001									
FT33	MPO	iii. 20 ug	<.0001	<.0001		0.002	iii. 20 ug	<.0001	<.0001		0.0087									
FT33	MPO	iv. 100 ug	<.0001	<.0001	0.002		iv. 100 ug	<.0001	<.0001	0.0087										
FT33	SOD3	i. 0 ug/ml		<.0001	<.0001	<.0001	i. 0 ug/ml		0.0003	<.0001	<.0001									
FT33	SOD3	ii. 5 ug/m	<.0001		0.0593	<.0001	ii. 5 ug/m	0.0003		0.2036	<.0001									
FT33	SOD3	iii. 20 ug	<.0001		0.0593	<.0001	iii. 20 ug	<.0001	0.2036		<.0001									
FT33	SOD3	iv. 100 ug	<.0001	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	<.0001										
FT33	iNOS	i. 0 ug/ml		<.0001	<.0001	<.0001	i. 0 ug/ml		<.0001	<.0001	<.0001									
FT33	iNOS	ii. 5 ug/m	<.0001		<.0001	<.0001	ii. 5 ug/m	<.0001		<.0001	<.0001									

PCR

FT33	INOS	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001	<.0001
FT33	INOS	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	<.0001
NOE	CAT	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	<.0001
NOE	CAT	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	0.0002	<.0001	<.0001
NOE	CAT	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	0.0002	<.0001	<.0001
NOE	CAT	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	<.0001
NOE	GSR	i. 0 ug/ml	0.1244	<.0001	<.0001	i. 0 ug/ml	0.3756	0.0004	0.0003	0.0003
NOE	GSR	ii. 5 ug/m	0.1244	0.0005	0.0003	ii. 5 ug/m	0.3756	0.0023	0.0015	0.0015
NOE	GSR	iii. 20 ug	<.0001	0.0005	0.7092	iii. 20 ug	0.0004	0.0023	0.0015	0.979
NOE	GSR	iv. 100 ug	<.0001	0.0003	0.7092	iv. 100 ug	0.0003	0.0015	0.979	0.979
NOE	GSTp1	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	0.0001	<.0001	<.0001	<.0001
NOE	GSTp1	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	0.0001	<.0001	<.0001	<.0001
NOE	GSTp1	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001	<.0001
NOE	GSTp1	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	<.0001
NOE	MPO	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	<.0001
NOE	MPO	ii. 5 ug/m	<.0001	0.0005	<.0001	ii. 5 ug/m	<.0001	0.0021	<.0001	<.0001
NOE	MPO	iii. 20 ug	<.0001	0.0005	<.0001	iii. 20 ug	<.0001	0.0021	0.0004	0.0004
NOE	MPO	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	0.0004	<.0001
NOE	SOD3	i. 0 ug/ml	0.0004	0.0004	<.0001	i. 0 ug/ml	0.0017	0.0017	<.0001	<.0001
NOE	SOD3	ii. 5 ug/m	0.0004	<.0001	<.0001	ii. 5 ug/m	0.0017	0.0017	0.0001	<.0001
NOE	SOD3	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	0.0001	<.0001	<.0001
NOE	SOD3	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	<.0001
NOE	INOS	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	<.0001
NOE	INOS	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001
NOE	INOS	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001	<.0001
NOE	INOS	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	<.0001
SKOV3	CAT	i. 0 ug/ml	0.0304	0.002	<.0001	i. 0 ug/ml	0.1127	0.0084	<.0001	<.0001
SKOV3	CAT	ii. 5 ug/m	0.0304	0.0949	0.0002	ii. 5 ug/m	0.1127	0.3024	0.0009	0.0009
SKOV3	CAT	iii. 20 ug	0.002	0.0949	0.0017	iii. 20 ug	0.0084	0.3024	0.0076	0.0076
SKOV3	CAT	iv. 100 ug	<.0001	0.0002	0.0017	iv. 100 ug	<.0001	0.0009	0.0076	0.0076
SKOV3	GSR	i. 0 ug/ml	0.1244	<.0001	<.0001	i. 0 ug/ml	0.3756	0.0004	0.0003	0.0003
SKOV3	GSR	ii. 5 ug/m	0.1244	0.0005	0.0003	ii. 5 ug/m	0.3756	0.0023	0.0015	0.0015
SKOV3	GSR	iii. 20 ug	<.0001	0.0005	0.7092	iii. 20 ug	0.0004	0.0023	0.0015	0.979
SKOV3	GSR	iv. 100 ug	<.0001	0.0003	0.7092	iv. 100 ug	0.0003	0.0015	0.979	0.979
SKOV3	GSTp1	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	<.0001
SKOV3	GSTp1	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001
SKOV3	GSTp1	iii. 20 ug	<.0001	<.0001	0.0004	iii. 20 ug	<.0001	<.0001	0.0016	0.0016
SKOV3	GSTp1	iv. 100 ug	<.0001	<.0001	0.0004	iv. 100 ug	<.0001	<.0001	0.0016	0.0016
SKOV3	MPO	i. 0 ug/ml	0.5259	0.0162	<.0001	i. 0 ug/ml	0.908	0.0634	<.0001	<.0001
SKOV3	MPO	ii. 5 ug/m	0.5259	0.0452	<.0001	ii. 5 ug/m	0.908	0.1607	<.0001	<.0001
SKOV3	MPO	iii. 20 ug	0.0162	0.0452	<.0001	iii. 20 ug	0.0634	0.1607	0.0004	0.0004
SKOV3	MPO	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	0.0004	0.0004
SKOV3	SOD3	i. 0 ug/ml	0.0413	0.0002	<.0001	i. 0 ug/ml	0.1483	0.001	<.0001	<.0001
SKOV3	SOD3	ii. 5 ug/m	0.0413	0.0042	<.0001	ii. 5 ug/m	0.1483	0.0177	<.0001	<.0001
SKOV3	SOD3	iii. 20 ug	0.0002	0.0042	<.0001	iii. 20 ug	0.001	0.0177	0.0001	0.0001
SKOV3	SOD3	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	0.0001	<.0001
SKOV3	INOS	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	<.0001
SKOV3	INOS	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	0.0001	<.0001	<.0001
SKOV3	INOS	iii. 20 ug	<.0001	<.0001	0.0005	iii. 20 ug	<.0001	0.0001	0.0022	0.0022
SKOV3	INOS	iv. 100 ug	<.0001	<.0001	0.0005	iv. 100 ug	<.0001	<.0001	0.0022	0.0022
TOV112	CAT	i. 0 ug/ml	0.1929	0.0669	<.0001	i. 0 ug/ml	0.5213	0.0285	<.0001	<.0001
TOV112	CAT	ii. 5 ug/m	0.1929	0.0606	<.0001	ii. 5 ug/m	0.5213	0.2074	<.0001	<.0001
TOV112	CAT	iii. 20 ug	0.0069	0.0606	<.0001	iii. 20 ug	0.0285	0.2074	<.0001	<.0001
TOV112	CAT	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	<.0001
TOV112	GSR	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	<.0001
TOV112	GSR	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001
TOV112	GSR	iii. 20 ug	<.0001	<.0001	0.0026	iii. 20 ug	<.0001	<.0001	0.0109	0.0109
TOV112	GSR	iv. 100 ug	<.0001	<.0001	0.0026	iv. 100 ug	<.0001	<.0001	0.0109	0.0109
TOV112	GSTp1	i. 0 ug/ml	0.1565	0.0081	<.0001	i. 0 ug/ml	0.4478	0.0332	<.0001	<.0001
TOV112	GSTp1	ii. 5 ug/m	0.1565	0.0895	<.0001	ii. 5 ug/m	0.4478	0.2882	0.0001	0.0001
TOV112	GSTp1	iii. 20 ug	0.0081	0.0895	0.0002	iii. 20 ug	0.0332	0.2882	0.0008	0.0008
TOV112	GSTp1	iv. 100 ug	<.0001	<.0001	0.0002	iv. 100 ug	<.0001	0.0001	0.0008	0.0008
TOV112	MPO	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	<.0001
TOV112	MPO	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001
TOV112	MPO	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	0.0004	0.0004
TOV112	MPO	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	0.0004	0.0004
TOV112	SOD3	i. 0 ug/ml	0.0035	0.0035	0.0004	i. 0 ug/ml	0.015	0.015	0.0019	<.0001
TOV112	SOD3	ii. 5 ug/m	0.0035	0.1329	<.0001	ii. 5 ug/m	0.015	0.3954	0.3954	<.0001
TOV112	SOD3	iii. 20 ug	0.0004	0.1329	<.0001	iii. 20 ug	0.0019	0.3954	<.0001	<.0001
TOV112	SOD3	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	<.0001
TOV112	INOS	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	<.0001
TOV112	INOS	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	<.0001
TOV112	INOS	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	0.0004	0.0004
TOV112	INOS	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	0.0004	0.0004

General linear model results

ELISA

ELISA												
Differences by exposure :		Nominal p-values				Tokey-Kramer Adjusted				Model fit		
Cell_line	Marker	i. 0 ug/ml	ii. 5 ug/m	iii. 20 ug	iv. 100 ug	i. 0 ug/ml	ii. 5 ug/m	iii. 20 ug	iv. 100 ug	Cell_line	Marker	R-Square
EL-1	CAT	i. 0 ug/ml	0.0029	<.0001	<.0001	i. 0 ug/ml	0.0122	<.0001	<.0001	EL-1	CAT	0.991514
EL-1	CAT	ii. 5 ug/m	0.0029	<.0001	<.0001	ii. 5 ug/m	0.0122	<.0001	<.0001	EL-1	GSR	0.991514
EL-1	CAT	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001	EL-1	GST	0.956082
EL-1	CAT	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	EL-1	MPQ	0.919367
EL-1	GSR	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	EL-1	NO2	0.986623
EL-1	GSR	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	EL-1	SOD	0.962855
EL-1	GSR	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001	FT33	CAT	0.995742
EL-1	GSR	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	FT33	GSR	0.995742
EL-1	GST	i. 0 ug/ml	0.0053	0.0007	<.0001	i. 0 ug/ml	0.022	0.0033	<.0001	FT33	GST	0.990876
EL-1	GST	ii. 5 ug/m	0.0053	0.1761	<.0001	ii. 5 ug/m	0.022	0.4883	<.0001	FT33	MPQ	0.775049
EL-1	GST	iii. 20 ug	0.0007	0.1761	<.0001	iii. 20 ug	0.0033	0.4883	0.0003	FT33	NO2	0.993174
EL-1	GST	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	0.0003	FT33	SOD	0.994496
EL-1	MPQ	i. 0 ug/ml	0.0048	0.0001	<.0001	i. 0 ug/ml	0.02	0.0006	<.0001	A2780	CAT	0.983712
EL-1	MPQ	ii. 5 ug/m	0.0048	0.0184	0.0009	ii. 5 ug/m	0.02	0.0713	0.0039	A2780	GSR	0.986925
EL-1	MPQ	iii. 20 ug	0.0001	0.0184	0.06	iii. 20 ug	0.0006	0.0713	0.2059	A2780	GST	0.967063
EL-1	MPQ	iv. 100 ug	<.0001	0.0009	0.06	iv. 100 ug	<.0001	0.0039	0.2059	A2780	MPQ	0.960296
EL-1	NO2	i. 0 ug/ml	0.0002	<.0001	<.0001	i. 0 ug/ml	0.0008	<.0001	<.0001	A2780	NO2	0.920775
EL-1	NO2	ii. 5 ug/m	0.0002	<.0001	<.0001	ii. 5 ug/m	0.0008	<.0001	<.0001	A2780	SOD	0.96559
EL-1	NO2	iii. 20 ug	<.0001	<.0001	0.015	iii. 20 ug	<.0001	<.0001	0.0589	NOE	CAT	0.994361
EL-1	NO2	iv. 100 ug	<.0001	<.0001	0.015	iv. 100 ug	<.0001	<.0001	0.0589	NOE	GSR	0.994361
EL-1	SOD	i. 0 ug/ml	0.0004	<.0001	<.0001	i. 0 ug/ml	0.0016	<.0001	<.0001	NOE	GST	0.956404
EL-1	SOD	ii. 5 ug/m	0.0004	0.0008	<.0001	ii. 5 ug/m	0.0016	0.0037	0.0004	NOE	MPQ	0.994361
EL-1	SOD	iii. 20 ug	<.0001	0.0008	0.0745	iii. 20 ug	<.0001	0.0037	0.2475	NOE	NO2	0.994361
EL-1	SOD	iv. 100 ug	<.0001	<.0001	0.0745	iv. 100 ug	<.0001	0.0004	0.2475	NOE	SOD	0.983272
FT33	CAT	i. 0 ug/ml	0.0003	<.0001	<.0001	i. 0 ug/ml	0.0016	<.0001	<.0001	SKOV-3	CAT	0.977149
FT33	CAT	ii. 5 ug/m	0.0003	<.0001	<.0001	ii. 5 ug/m	0.0016	<.0001	<.0001	SKOV-3	GSR	0.994361
FT33	CAT	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001	SKOV-3	GST	0.97881
FT33	CAT	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	SKOV-3	MPQ	0.994361
FT33	GSR	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001	SKOV-3	NO2	0.985148
FT33	GSR	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001	SKOV-3	SOD	0.978235
FT33	GSR	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001	TOV-112	CAT	0.991059
FT33	GSR	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	TOV-112	GSR	0.994361
FT33	GST	i. 0 ug/ml	0.0001	<.0001	<.0001	i. 0 ug/ml	0.0006	<.0001	<.0001	TOV-112	GST	0.975344
FT33	GST	ii. 5 ug/m	0.0001	0.0002	<.0001	ii. 5 ug/m	0.0006	0.0008	<.0001	TOV-112	MPQ	0.990375
FT33	GST	iii. 20 ug	<.0001	0.0002	<.0001	iii. 20 ug	<.0001	0.0008	<.0001	TOV-112	NO2	0.970334
FT33	GST	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001	TOV-112	SOD	0.988387
FT33	MPQ	i. 0 ug/ml	0.003	0.4263	0.0041	i. 0 ug/ml	0.0129	0.8352	0.0173			
FT33	MPQ	ii. 5 ug/m	0.003	0.01	0.8308	ii. 5 ug/m	0.0129	0.0405	0.9959			
FT33	MPQ	iii. 20 ug	0.4263	0.01	0.014	iii. 20 ug	0.8352	0.0405	0.0552			
FT33	MPQ	iv. 100 ug	0.0041	0.8308	0.014	iv. 100 ug	0.0173	0.9959	0.0552			
FT33	NO2	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001			
FT33	NO2	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001			
FT33	NO2	iii. 20 ug	<.0001	<.0001	0.0366	iii. 20 ug	<.0001	<.0001	0.1334			
FT33	NO2	iv. 100 ug	<.0001	<.0001	0.0366	iv. 100 ug	<.0001	<.0001	0.1334			
FT33	SOD	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001			
FT33	SOD	ii. 5 ug/m	<.0001	<.0001	<.0001	ii. 5 ug/m	<.0001	<.0001	<.0001			
FT33	SOD	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	0.0001			
FT33	SOD	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	0.0001	0.0001			
A2780	CAT	i. 0 ug/ml	0.1307	<.0001	<.0001	i. 0 ug/ml	0.3904	<.0001	<.0001			
A2780	CAT	ii. 5 ug/m	0.1307	<.0001	<.0001	ii. 5 ug/m	0.3904	0.0004	<.0001			
A2780	CAT	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	0.0004	<.0001			
A2780	CAT	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001			
A2780	GSR	i. 0 ug/ml	0.0002	<.0001	<.0001	i. 0 ug/ml	0.0011	<.0001	<.0001			
A2780	GSR	ii. 5 ug/m	0.0002	<.0001	<.0001	ii. 5 ug/m	0.0011	<.0001	<.0001			
A2780	GSR	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001			
A2780	GSR	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001			
A2780	GST	i. 0 ug/ml	0.033	<.0001	<.0001	i. 0 ug/ml	0.1216	0.0004	<.0001			
A2780	GST	ii. 5 ug/m	0.033	0.0018	<.0001	ii. 5 ug/m	0.1216	0.0079	0.0005			
A2780	GST	iii. 20 ug	<.0001	0.0018	<.0001	iii. 20 ug	0.0004	0.0079	0.0005			
A2780	GST	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	0.0005	<.0001			
A2780	MPQ	i. 0 ug/ml	0.0002	<.0001	<.0001	i. 0 ug/ml	0.0009	<.0001	<.0001			
A2780	MPQ	ii. 5 ug/m	0.0002	0.0032	0.0002	ii. 5 ug/m	0.0009	0.0136	0.0008			
A2780	MPQ	iii. 20 ug	<.0001	0.0032	0.0457	iii. 20 ug	<.0001	0.0136	0.1624			
A2780	MPQ	iv. 100 ug	<.0001	0.0002	0.0457	iv. 100 ug	<.0001	0.0008	0.1624			
A2780	NO2	i. 0 ug/ml	0.0436	0.0015	<.0001	i. 0 ug/ml	0.1557	0.0065	<.0001			
A2780	NO2	ii. 5 ug/m	0.0436	0.0477	0.0001	ii. 5 ug/m	0.1557	0.1687	0.0006			
A2780	NO2	iii. 20 ug	0.0015	0.0477	0.002	iii. 20 ug	0.0065	0.1687	0.0086			
A2780	NO2	iv. 100 ug	<.0001	0.0001	0.002	iv. 100 ug	<.0001	0.0006	0.0086			
A2780	SOD	i. 0 ug/ml	0.0489	<.0001	<.0001	i. 0 ug/ml	0.1724	<.0001	<.0001			
A2780	SOD	ii. 5 ug/m	0.0489	0.0001	<.0001	ii. 5 ug/m	0.1724	0.0006	<.0001			

ELISA

A2780	SOD	iii. 20 ug	<.0001	0.0001	0.0035	iii. 20 ug	<.0001	0.0006	0.0149
A2780	SOD	iv. 100 ug	<.0001	0.0035		iv. 100 ug	<.0001	0.0149	
NOE	CAT	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	0.0003	<.0001	<.0001
NOE	CAT	ii. 5 ug/ml	<.0001	<.0001	<.0001	ii. 5 ug/ml	0.0003	<.0001	<.0001
NOE	CAT	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001
NOE	CAT	iv. 100 ug	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	
NOE	GSR	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001
NOE	GSR	ii. 5 ug/ml	<.0001	<.0001	<.0001	ii. 5 ug/ml	<.0001	<.0001	<.0001
NOE	GSR	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001
NOE	GSR	iv. 100 ug	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	
NOE	GST	i. 0 ug/ml		0.0086	0.0001	i. 0 ug/ml	0.0349	0.0005	<.0001
NOE	GST	ii. 5 ug/ml	0.0086		0.0065	ii. 5 ug/ml	0.0349	0.0268	<.0001
NOE	GST	iii. 20 ug	0.0001	0.0065	0.0005	iii. 20 ug	0.0005	0.0268	0.0024
NOE	GST	iv. 100 ug	<.0001	<.0001	0.0005	iv. 100 ug	<.0001	0.0024	
NOE	MPO	i. 0 ug/ml		0.0152	0.0907	i. 0 ug/ml	0.0597	0.2915	0.1994
NOE	MPO	ii. 5 ug/ml	0.0152		0.282	ii. 5 ug/ml	0.0597	0.6697	0.8231
NOE	MPO	iii. 20 ug	0.0907	0.282	0.7793	iii. 20 ug	0.2915	0.6697	0.9909
NOE	MPO	iv. 100 ug	0.0579	0.4129	0.7793	iv. 100 ug	0.1994	0.8231	0.9909
NOE	NO2	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001
NOE	NO2	ii. 5 ug/ml	<.0001	<.0001	<.0001	ii. 5 ug/ml	<.0001	<.0001	<.0001
NOE	NO2	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001
NOE	NO2	iv. 100 ug	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	
NOE	SOD	i. 0 ug/ml		0.0016	<.0001	i. 0 ug/ml		0.0071	<.0001
NOE	SOD	ii. 5 ug/ml	0.0016		<.0001	ii. 5 ug/ml	0.0071	<.0001	<.0001
NOE	SOD	iii. 20 ug	<.0001	<.0001	0.0099	iii. 20 ug	<.0001	<.0001	0.0401
NOE	SOD	iv. 100 ug	<.0001	<.0001	0.0099	iv. 100 ug	<.0001	<.0001	0.0401
SKOV-3	CAT	i. 0 ug/ml		0.0038	0.0001	i. 0 ug/ml	0.0162	0.0006	<.0001
SKOV-3	CAT	ii. 5 ug/ml	0.0038		0.0241	ii. 5 ug/ml	0.0162	0.0913	<.0001
SKOV-3	CAT	iii. 20 ug	0.0001	0.0241	<.0001	iii. 20 ug	0.0006	0.0913	<.0001
SKOV-3	CAT	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001
SKOV-3	GSR	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001
SKOV-3	GSR	ii. 5 ug/ml	<.0001		0.0002	ii. 5 ug/ml	<.0001	0.0008	<.0001
SKOV-3	GSR	iii. 20 ug	<.0001	0.0002	<.0001	iii. 20 ug	<.0001	0.0008	<.0001
SKOV-3	GSR	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001
SKOV-3	GST	i. 0 ug/ml		0.0042	<.0001	i. 0 ug/ml		0.0175	<.0001
SKOV-3	GST	ii. 5 ug/ml	0.0042		0.0011	ii. 5 ug/ml	0.0175	0.0047	<.0001
SKOV-3	GST	iii. 20 ug	<.0001	0.0011	<.0001	iii. 20 ug	<.0001	0.0047	<.0001
SKOV-3	GST	iv. 100 ug	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	
SKOV-3	MPO	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001
SKOV-3	MPO	ii. 5 ug/ml	<.0001	<.0001	<.0001	ii. 5 ug/ml	<.0001	<.0001	<.0001
SKOV-3	MPO	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001
SKOV-3	MPO	iv. 100 ug	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	
SKOV-3	NO2	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	0.0004	<.0001	<.0001
SKOV-3	NO2	ii. 5 ug/ml	<.0001	<.0001	<.0001	ii. 5 ug/ml	0.0004	<.0001	<.0001
SKOV-3	NO2	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001
SKOV-3	NO2	iv. 100 ug	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	
SKOV-3	SOD	i. 0 ug/ml		0.0006	<.0001	i. 0 ug/ml		0.0027	<.0001
SKOV-3	SOD	ii. 5 ug/ml	0.0006		0.0002	ii. 5 ug/ml	0.0027	0.001	<.0001
SKOV-3	SOD	iii. 20 ug	<.0001	0.0002	0.0003	iii. 20 ug	<.0001	0.001	0.0013
SKOV-3	SOD	iv. 100 ug	<.0001	<.0001	0.0003	iv. 100 ug	<.0001	<.0001	0.0013
TOV-112	CAT	i. 0 ug/ml		0.0004	<.0001	i. 0 ug/ml		0.0018	<.0001
TOV-112	CAT	ii. 5 ug/ml	0.0004		<.0001	ii. 5 ug/ml	0.0018	<.0001	<.0001
TOV-112	CAT	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001
TOV-112	CAT	iv. 100 ug	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	
TOV-112	GSR	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001
TOV-112	GSR	ii. 5 ug/ml	<.0001	<.0001	<.0001	ii. 5 ug/ml	<.0001	<.0001	<.0001
TOV-112	GSR	iii. 20 ug	<.0001	<.0001	<.0001	iii. 20 ug	<.0001	<.0001	<.0001
TOV-112	GSR	iv. 100 ug	<.0001	<.0001		iv. 100 ug	<.0001	<.0001	
TOV-112	GST	i. 0 ug/ml		0.0051	<.0001	i. 0 ug/ml		0.0212	<.0001
TOV-112	GST	ii. 5 ug/ml	0.0051		0.0002	ii. 5 ug/ml	0.0212	0.001	<.0001
TOV-112	GST	iii. 20 ug	<.0001	0.0002	0.0002	iii. 20 ug	<.0001	0.001	0.001
TOV-112	GST	iv. 100 ug	<.0001	<.0001	0.0002	iv. 100 ug	<.0001	<.0001	0.001
TOV-112	MPO	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml	<.0001	<.0001	<.0001
TOV-112	MPO	ii. 5 ug/ml	<.0001		0.0006	ii. 5 ug/ml	<.0001	0.0025	<.0001
TOV-112	MPO	iii. 20 ug	<.0001	0.0006	<.0001	iii. 20 ug	<.0001	0.0025	<.0001
TOV-112	MPO	iv. 100 ug	<.0001	<.0001	<.0001	iv. 100 ug	<.0001	<.0001	<.0001
TOV-112	NO2	i. 0 ug/ml	<.0001	0.0007	<.0001	i. 0 ug/ml	<.0001	0.0029	<.0001
TOV-112	NO2	ii. 5 ug/ml	<.0001	0.0007	0.0002	ii. 5 ug/ml	<.0001	0.0239	0.0008
TOV-112	NO2	iii. 20 ug	0.0007	0.0057	<.0001	iii. 20 ug	0.0029	0.0239	<.0001
TOV-112	NO2	iv. 100 ug	<.0001	0.0002	<.0001	iv. 100 ug	<.0001	0.0008	<.0001
TOV-112	SOD	i. 0 ug/ml	<.0001	<.0001	<.0001	i. 0 ug/ml		0.0003	<.0001
TOV-112	SOD	ii. 5 ug/ml	<.0001	<.0001	<.0001	ii. 5 ug/ml	0.0003	<.0001	<.0001
TOV-112	SOD	iii. 20 ug	<.0001	<.0001	0.0006	iii. 20 ug	<.0001	<.0001	0.0025
TOV-112	SOD	iv. 100 ug	<.0001	<.0001	0.0006	iv. 100 ug	<.0001	0.0025	